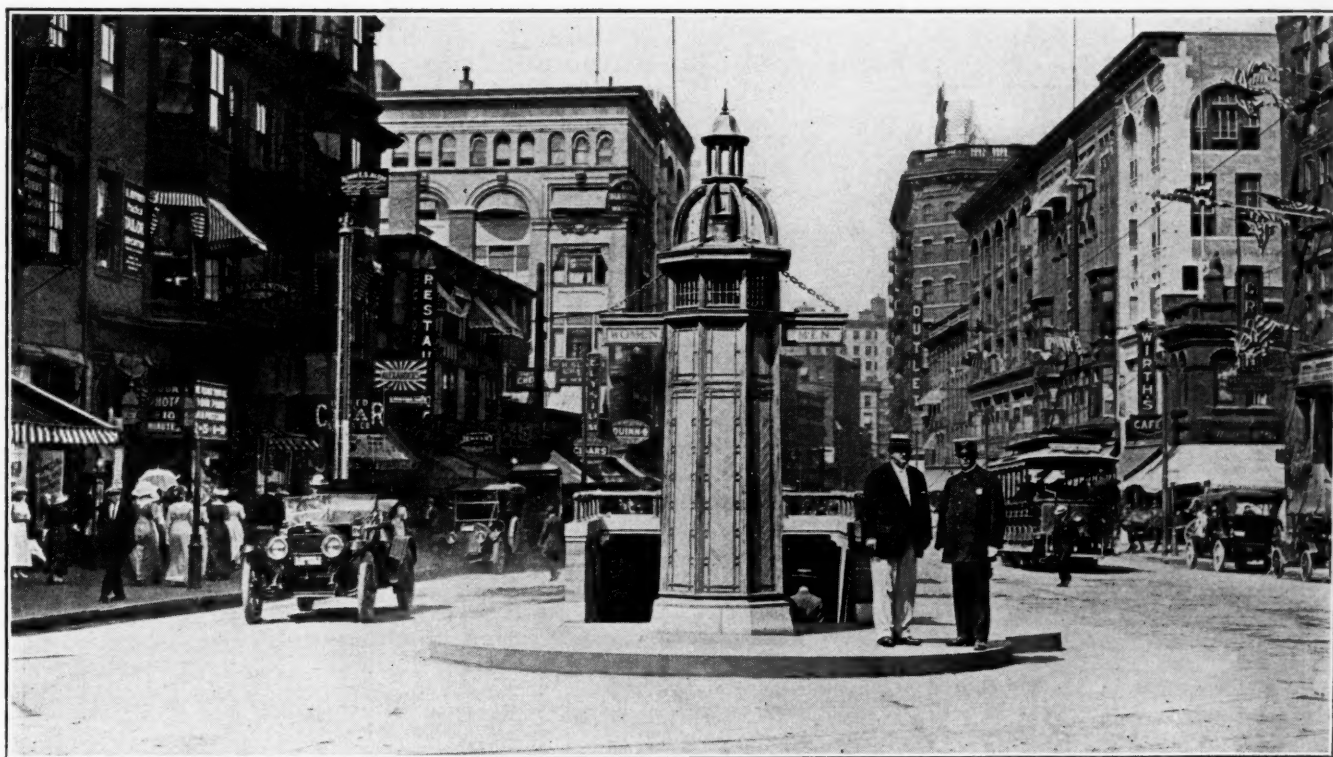


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PUBLIC CONVENIENCE STATION IN WEYBOSSET STREET, PROVIDENCE.

NEW PROVIDENCE CONVENIENCE STATION

Concrete, Brick, Granite and Bronze Construction.—Details of Plan and of Plumbing Features.—Provisions for Removing Stoppages.—Drainage and Ventilation.—Lighting.

BY JOHN R. HESS.

After nine years of discussion and investigation, the city of Providence, R. I., has a modern public convenience station which in design, materials and workmanship is one of the best in the country. The experiences of other cities were drawn upon by the architects, Martin and Hall, and by Reuben S. Bemis, Inspector of Plumbing of Providence, and new features appear in the general arrangements as well as in the heating and ventilating systems.

The location is in the middle of Weybosset street, which is about 114 feet wide, at the intersection with Mathewson street. Both entrances are at the west end. The stairway is divided by a partition surmounted by a bronze ramp the object of which is to prevent observation between the stairs used by the men and the women. The dividing partition is next to and abuts against the ventilating stack of bronze and brick which rises 15 feet above the pavement and resembles one of the lighthouses in Narragansett Bay. The entrances are unroofed, but are arranged for a covering of bronze and glass.

The station is surrounded by a concrete platform 37 feet long and 18 feet wide. One can step from this platform to the electric cars which pass the station. Around the stairway is an exterior wall of granite and gray brick the average height of which is 3 feet 6 inches. This wall is surmounted by a bronze rail.

The stack at the west end has a diameter of 3 feet 4 inches and has a base of gray granite and a framework and a top of solid bronze. The panels of the stack are filled with gray brick laid in patterns. The bronze work is finished in verde antique. Projecting from the stack are two arms carrying illuminated signs—"Women," "Men" over the respective entrances. The stack contains an exhaust pipe from the foul air system and carries the smoke pipe of the steam heating plant and the vent pipe of the drainage and plumbing systems.

Each stairway is 4 feet wide. The treads are easy and a landing half way down has a drain for intercepting snow and water. The floor at the bottom of the stairs also has drainage to the sewer. The stairways

feet above the floor; these are supported by brass pipe and fittings. The partitions are constructed with a cleaning space between the back edge of the partitions and the walls. The ceilings and the walls above the marble are of cement plaster. All angles are rounded and the plaster is finished in 4 coats of enamel in colors with a narrow line border above the top of the marble.

The floors are of terrazzo and are graded to the sewer.

The only wood used is in the doors and the frames. The doors are compound and all surfaces are flush and smooth.

All the closets are of the back outlet syphon type. The flush valves of the free closets are behind the back partition with a lever projecting through for seat action.

In the apparatus room 25 feet long and 7 feet wide, are the heating and ventilating plant, the hot water heater, the electric switchboard and motors, the water meter, the automatic and hand valves controlling the drainage system. Opening from the apparatus room is the coal storage space which has a chute from the sidewalk above. There also is a closet for supplies.

The heating and ventilating is by the indirect system. A fan forces in the fresh air, which is warmed in winter, and another fan removes the foul air. Heat is supplied by a sectional heater; each section has a valve which permits the operation of one or more sections as desired. A small low pressure boiler carries a pressure of five pounds. The coil is surrounded by a sheet metal casing to which is attached a one-half horsepower fan. Fresh air is drawn from the stairway above the women's entrance through a supply duct to the coil housing by a fan. Connected with the fan casing are pipes carrying the air through the registers. Deflectors control the outgoing air. Every room, including the supply closet, receives fresh air.

Adjacent to the fan supplying fresh air is a fan driven at slow speed by a half horsepower motor; and from the casing, from which radiate ducts that run to each room and compartment, a vent pipe is carried to a position where a register pass is located back of and above the seat of each closet. The fans are run 18 hours a day and thus insure perfect ventilation while the station is open to the public, a complete change of air being provided every five minutes.

All the cold water supply pipes are brass, and all exposed metal fittings are solid brass. The hot and cold water pipes are of generous size, and to insure thorough circulation the cold water pipe makes a complete circuit.

Provision for preventing stoppage in the drainage system is made at the terminal points of the main drainage pipes of the men's and the women's sections by connecting there a two-inch water pipe direct from the main, controlled by valves which permit thorough flushing of the pipes by the attendant at regular intervals. There also are several accessible cleanouts. A sewage lift pump is to be used in the event of a stoppage in the drainage system. By dropping the suction hose from the pump down the fresh air inlet of the main drain pipe or into one of the water closets the pipes can be emptied and thus prevent flooding and fouling of the station when the cleanout caps are opened to remove the obstruction.

Low headroom is necessitated by the fact that the sewer is near the street level; 7 feet 10 inches is all the space available after allowing for the support of the overhead construction.

The lighting is controlled from a switchboard in the apparatus room. Each circuit is switched to facilitate repairs. Each outlet is controlled by a switch and the fixtures are fitted with tungsten ground lamps. The underground construction necessitates artificial light-

ing except in the urinal room and the men's section, where there is overhead sidewalk lighting.

The underground construction is of concrete with division walls of brick. The roofing supporting the street pavement over part of the station is reinforced concrete designed for a live load of 400 pounds to the square foot.

The station is open from 6 a. m. to midnight on the men's side and from 6.30 a. m. to 11 p. m. on the women's side. The attendant in charge has three assistants, two of whom are women. The fee charged in the pay compartments is 5 cents, which includes towel and soap and in the free lavatories a towel is furnished for 2 cents. In each section is a cash register. The money collected is turned over to the Commissioner of Public Buildings. The station of course is not self-supporting.

The men's and the women's sections are separated except where an emergency door is placed for use in case of necessity. A bell gives the signal for opening this door.

The cost, not including the site, was \$22,156, and the station is so satisfactory that a second one is to be built this year in Exchange Place opposite the City Hall.

STREET PAVING IN NEW HAVEN

Only Wood Block, Asphalt and Bituminous Macadam Used.—Advantages of Having Few Kinds of Pavements.—Costs.

From a statement by FREDERICK L. FORD, City Engineer.

The street paving work being done in New Haven, Conn., this summer is interesting in many ways; first, because of the large area or mileage being paved, and, secondly, because the results of this year's work will undoubtedly do more than anything else to shape the future policy of paving work in New Haven. Only three kinds of pavement are being laid, but they are representative types of three different classes of pavements now being very generally laid in progressive American cities. The three kinds selected are creosoted wood block, sheet asphalt, and bituminous macadam.

So far as New Haven is concerned, with a splendid natural sandy and porous soil, and with comparatively light grades, we have not only ideal conditions for securing modern pavements at the lowest possible cost, but the grades are also favorable for smooth surfaced pavements. It is true that these pavements, when dirty or frosty, are somewhat treacherous for horses, but this is not so much the fault of the pavement as of the street cleaning department.

Because horses as well as men have to become accustomed to travelling over modern pavements, it should be the constant endeavor of city officials to have as few varieties as possible. There is also another very good reason for such a policy. The repair men can do better work in less time by becoming familiar with a few kinds of pavements. Less equipment is necessary, and less materials are needed in stock.

So far as New Haven's experience is concerned, the modern wood block pavement seems to meet every requirement for the narrow heavy traffic business street. The initial cost is less than that of granite or Belgian blocks, varying with the amount of competition, cost of materials, labor, etc., and the amount to be laid from \$3.15 to \$3.50 per square yard, with 3½-inch blocks, a one-inch sand cushion, on a six-inch concrete base.

For streets where the grade exceeds three feet per hundred, and on heavy traffic wholesale, manufacturing

or industrial streets, small dimension granite blocks with a Portland cement grout filler seem to be the best alternative. The tendency nowadays in laying granite block pavements is to cut them much shallower and thinner, more nearly approaching the dimensions of brick, except in length. This policy also reduces the noise and cost, and the use of cement instead of sand or tar and pebbles for filling the joints makes a smoother surface and one which can be kept clean more easily and cheaply.

The total yardage of wood block now under contract is about 30,000, and the cost at the contract price of \$3.16 per square yard will be nearly one hundred thousand dollars.

On all streets like main arteries leading out of the city, where the traffic is lighter and less congested than on the central business streets, a pavement less expensive than wood block or granite can be used with equally satisfactory results. In this group of pavements ranging in price from \$1.75 to \$2.75 per square yard there is a great variety and many patented types.

For this season's work the Commission on Permanent Pavements has selected sheet asphalt on concrete base from this group, and, taking advantage of New Haven's dry, sandy soil, the concrete base for the asphalt pavements has been reduced from 6 to 4 inches in thickness, and the prices per square yard for this kind of pavement are the lowest in the history of New Haven, and probably as low as any Eastern city has obtained in many years.

For the least expensive type of pavement suitable for light traffic residential streets, the Paving Commission has selected bituminous macadam.

The paving work being done this summer is the largest in the history of the city. Including the state highway work, that being done under the \$200,000 bond issue, and the paving of Meadow street and New Union avenue, paid for wholly by the N. Y., N. H. & H. R. R., the total cost will probably exceed \$300,000.

DAYTON'S PUMPS IN THE FLOOD

Although Sixteen Feet Under Water, Pumps Were Idle Only Four Days.—Cleaning and Starting Machinery.—Leaks From Broken Service Pipes

The story of the Ohio floods occupied much of the attention of the daily press a few months ago, but many of the features which were of most interest to engineers and other city officials in charge of public utilities were not recognized by the reporters and are only gradually receiving public notice. Among these was the operation of the water works plants during this trying time. The experiences of Dayton, Ohio, were perhaps as interesting as those of any city. For the information given below we are indebted to Val Kanouse, the office manager of the Dayton Water Department, and to the secretary of the Chamber of Commerce.

The chief engineer of the department, W. V. R. Coon, recognizing on the night of March 24th that serious conditions were threatening, prepared for emergencies and planned his course of action. Mr. Coon and his family lived next door to the pumping station, and in order to keep in direct touch with the plant, even though his residence should be flooded, moved his family to the upper floor of the pumping station, where they and the assistants at the plant lived throughout the flood, subsisting upon potatoes and the eggs from a number of chickens which were carried into the loft. Water came into the boiler room and the lower engine at 9 A. M.,

March 25th, putting out the fires at 9.10, the pumps continuing running for five minutes longer. At 10.33 a clock which was 7 feet 9 inches above the upper engine room floor was stopped by the flood. At 11.35 P. M. the water reached its highest mark, 12 feet 8 inches above the sidewalk level, just covering the upper boiler room, 15 feet 8 inches above the lower boiler room, or 16 feet 8 inches above the lower engine room. It was not until three days later that the water had fallen so that it was possible to raise steam in the boilers, and meantime the chief engineer and his family, assistant engineers, the firemen and oilers, kept warm by building fires upon the tops of the boilers.

At 10 A. M. of March 28th fire was again started under the boilers, but owing to the steam lines to the boilers being under the floor and the fact that what coal remained was covered with over a foot of mud, it was not possible to get up steam until several engines sent by the fire department had pumped out the water in the cellar to a point below the steam lines. (Since this all steam lines have been placed above the engines.) The next day clean coal, which had been confiscated by the military officers who had the situation in charge, was delivered at the pumping plant, steam was raised and the vertical ten million gallon pump was started at 9.15 A. M. It required fifteen minutes for it to catch its load and pressure began to show at 11 o'clock. The ten million gallon Holly Gaskill engine was started at noon of that day, and the fifteen million gallon Holly duplex engine was started at 2 P. M. By 2.15 the pressure had been raised to 40 pounds and was gradually increased to 60 pounds, the normal pressure carried for domestic purposes, which was reached at 6 P. M.; and it has been retained at this pressure continuously since that time, except that from 1 to 6 P. M. each day it has been raised to 100 pounds for the benefit of the higher sections of the city.

In the cleaning up after the subsidence of the flood streams of water were turned on to the machinery to wash off the mud and keep the bearings from overheating, and oil was poured into the bearings constantly for some time after starting. Getting up pressure was delayed by the fact that almost every automatic sprinkler system in the flooded district was broken, many fire hydrants also were broken and house services destroyed, and Superintendent of Construction F. H. Grosbernt and his force of men were kept busy cutting off these connections at the curb as fast as they could be located. In carrying out this work Mr. Grosbernt first divided the city into districts, and canvassed all leaks in services and mains. Mr. Kanouse states that but few minor repairs were necessary to render the pumps ready for continuous service during the heavy summer pumping, and little, if any, permanent injury appears to have been done them.

The shops were in as bad order as the pumping station after the flood, all stock, consisting of meters, parts of meters, tools, etc., being covered with silt to a depth of from 1 to 3 feet, while considerable material was entirely lost. The stable was washed away, but twelve head of horses and most of the wagons had been safely removed. At the office of the department the water reached a depth of 6 feet 7 inches, which practically covered everything of value. New fixtures were required and few of the records were saved, this loss introducing innumerable difficulties in carrying on the business of the department. The loss in equipment, machinery and fixtures was about \$20,000. Mr. Kanouse gives great praise to the chief engineer and his assistants for their faithful and able efforts during this time, which resulted in the pumping plant being the first plant in the city to resume operations.

STANDARD SPECIFICATIONS FOR HYDRANTS AND VALVES

Adopted By the American Water Works Association.—
Dimensions, Materials and Details of Design
and Construction.—Testing.

The following specifications were adopted by the American Water Works Association June 24, 1913, and we urge that, so far as possible, they be used by cities generally for all future orders.

The committee has not included specifications for hydrants with independent cutoffs, not deeming these hydrants "standard."

It recommends the use of the smaller standard sizes of hydrants at frequent intervals, rather than large hydrants with numerous outlets spaced at longer intervals.

SPECIFICATIONS FOR HYDRANTS.

1. Size.

Classification: 1. The size of hydrants shall be designated by the nominal diameter of the valve opening, which must be at least 4 inches for hydrants having two $2\frac{1}{2}$ -inch hose nozzles; 5 inches for hydrants having three $2\frac{1}{2}$ -inch hose nozzles; and 6 inches for hydrants having four $2\frac{1}{2}$ -inch hose nozzles, and shall be classed as one-way, two-way, three-way or four-way, etc., according to the number of $2\frac{1}{2}$ -inch hose outlets for which they are designed.

Area Water Way: 2. The net area of the hydrant at the smallest part, when the valve is wide open, must not be a less area than 20 per cent in excess of the size of the valve opening.

Bell Ends or Flange Ends: 3. All hydrants must be fitted with bell ends to fit standard cast iron pipe, or, if flanged, they must be fitted with flanges of the standard dimensions corresponding to the pressure under which they are to be used; connecting pipe or branch from main in no case to be less in diameter than the valve opening.

2. General Design.

Change in Diameter: 1. Any change in diameter of the water passage through the hydrant must have easy curves, and all outlets must have rounded corners of good radius.

Water Hammer: 2. Hydrants must be so designed, particularly as regards the pitch of the thread of the operating stem, that, when properly operated, water hammer will not be caused which will give an increased pressure to exceed the working pressure when such pressure is over 60 pounds, nor increase the pressure more than 60 pounds when operated under less working pressure than 60 pounds.

Strapping: 3. Hydrants must be so designed that the leaded joint under ground can be strapped.

3. Material.

Cast Iron: All castings shall be made from a superior quality of iron, remelted in cupola or air furnace, tough and of even grain, and shall possess a tensile strength of 22,000 pounds per square inch. The casting must be clean and perfect, without blow or sand holes or defects of any kind. No plugging or stopping of holes will be allowed.

Specimen Bars: Specimen bars of the metal used, each being 26 inches long by 2 inches wide and 1 inch thick, shall be made without charge as often as the engineer may direct, and in default of definite instructions, the contractor shall make and test at least one bar from each heat or run of metal. The bars when placed flatwise upon supports 24 inches apart, and loaded in the center, shall support a load of 2,200 pounds, and show a deflection of not less than .35 of an inch before breaking; or, if preferred, tensile bars shall be made which will show a breaking point of not less than 22,000 pounds per square inch. Bars must be cast as nearly as possible to the dimensions without finishing, but corrections may be made by the engineer for variations in width and thickness, and the corrected result must conform to above requirements.

Wrought Iron: All wrought iron used shall be of the best quality of refined iron, of a tensile strength of at least 45,000 pounds per square inch.

Composition Metals: All composition or other noncorrodible metals used to be of the best quality, to have a tensile strength of not less than 32,000 pounds per square inch, with 5 per cent reduction of area at breaking point.

4. Hose Nipples and Valves.

Hose Nipples: 1. Hose nipples must be of bronze or suitable non-corrodible metal, either threaded with a fine thread into the hydrants and securely pinned in place or carefully locked and caulked in place.

Hose Threads: 2. Hose threads on all hydrants to be installed in any given community must of necessity be inter-

changeable with those already in service, but, when practicable, threads should conform to the National Standard.

5. Hydrant Seat and Gate.

Seat: 1. The seat must be made of bronze or suitable non-corrodible metal, securely fastened in place.

Valve: 2. The valve must be faced with a suitable material and must be designed so that it can be easily removed for repairs without digging up the hydrant.

6. Drip Valve.

Drip: A positively operating non-corrodible valve must be provided and arranged so as to properly drain the hydrant when the main valve is closed. The seat of the waste valve, which must be fastened in the hydrant securely, must be made of non-corrodible material. All other parts of the drip mechanism must be so designed as to be easily removed without digging up the hydrant.

7. Operating Parts

Operating Threads: 1. The operating threads of the hydrant must be so arranged as to do away with the working of any iron or steel parts against iron or steel. Either the operating screw or the operating nut must be made of non-corrodible metal, and sufficiently strong to perform the work for which they are intended.

Top Nut: 2. The stem must terminate at the top in a nut of pentagonal shape, finished with slight taper to $1\frac{1}{2}$ inches from point to flat, except for hydrants to be installed where existing hydrants have different shape or size of nut, in which case the additional hydrant must have operating nut similar to the old ones for uniformity.

8. Stuffing Box and Gland.

Stuffing Box: 1. The stuffing box and gland must be of bronze or suitable non-corrodible metal or bashed with bronze or suitable non-corrodible metal, when an iron or steel stem is used or when an iron operating stem nut passes through the stuffing box. When packing nut is used, it must be made of bronze or suitable non-corrodible metal. The bottom of the box and end of the gland or packing nut must be slightly beveled.

Gland Bolts: 2. Gland bolts or studs must be at least $\frac{1}{2}$ of an inch in diameter.

Material: 3. Gland bolts or studs may be either of bronze or suitable non-corrodible metal, iron or steel. The nuts must always be of bronze or suitable non-corrodible metal.

9. Hydrant Top.

Top: 1. The hydrant top must be designed so as to make the hydrant as waterproof as possible and thus overcome the danger from water getting in and freezing around the stem. Provisions must be made for oiling, both for lubrication and to prevent corrosion. A reasonably tight fit should be made around stems.

2. There must be cast on top of the hydrant, in characters raised $\frac{1}{8}$ of an inch, an arrow at least $2\frac{1}{2}$ inches long and the word "Open" in letters $\frac{1}{2}$ of an inch high and $\frac{1}{8}$ of an inch in relief, indicating direction to turn to open the hydrant.

10. Hose Caps.

Caps: 1. Hose caps must be provided for all outlets, and must be securely chained to the barrel with a chain constructed of material not less than $\frac{1}{8}$ of an inch in diameter.

Cap Nut: 2. The hose cap nut must be of the same size and shape as the top or operating nut.

Washer in Cap: 3. When requested by the purchaser, a leather, rubber or lead washer must be provided in the hose cap, set in a groove to prevent its falling out when the cap is removed.

11. Markings.

Marking: The hydrant must be marked with the name or particular mark of the manufacturer.

12. Testing.

Testing: Hydrants for pressure of 150 pounds or less, after being assembled, shall be tested by hydraulic pressure to 300 pounds per square inch before leaving the factory. If the working pressure is 150 pounds per square inch, the hydrants must be tested to twice the working pressure. The test must be made with valve open in order to test the whole barrel for porosity and strength of hydrant body. A second test must be made with valve shut, in order to test the strength and tightness of the valve.

13. Directions to Open

Opening: Hydrants must open to the left (counter clockwise) except those to be installed where existing hydrants open to the right, in which case the additional hydrants must turn the same as the old ones for the sake of uniformity.

SPECIFICATIONS FOR VALVES.

Castings.

Castings: All iron castings shall be made from a superior quality of iron, remelted in cupola or air furnace, tough and of even grain, and shall possess a tensile strength of 22,000 pounds per square inch. The castings must be clean and

perfect, without blow or sand holes or defects of any kind. No plugging or stopping of holes will be allowed.

Test Bars.

Test Bars: Specimen bars of the metal used, each being 26 inches long by 2 inches wide and 1 inch thick, shall be made without charge as often as the engineer may direct, and in default of definite instructions, the contractor shall make and test at least one bar from each heat or run of metal. The bars when placed flatwise upon supports 24 inches apart, and loaded in the center, shall support a load of 2,200 pounds and show a deflection of not less than .35 of an inch before breaking; or, if preferred, tensile bars shall be made which will show a breaking point of not less than 22,000 pounds per square inch. Bars to be cast as nearly as possible to the dimensions without finishing, but corrections may be made by the engineer for variations in width and thickness, and the corrected result must conform to above requirement.

Maker's Name.

Name: Each valve shall have the makers' name cast upon it.

Wrought Iron.

Wrought Iron: All wrought iron used shall be of the best quality of refined iron, of a tensile strength of at least 45,000 pounds per square inch.

Composition Metals.

Composition: All composition metals to be of the best quality, and, except the stems, to have a tensile strength of not less than 30,000 pounds per square inch, with 5 per cent elongation in 8 diameters, and 5 per cent reduction of area at breaking point.

Face Joints.

Face Joints: All joints shall be faced true and smooth, so as to make, with suitable gaskets, a perfectly water-tight joint.

Fitting and Interchangeable Parts.

Fittings: The fitting of all parts must be such as make perfect joints, and all parts of the valves of the same make and the same size shall be interchangeable.

Valves to open as specified by the engineer.

Bolts and Nuts.

Bolts and Nuts: All bolts and nuts in valves to be made from the best quality of double refined wrought iron or steel, heads, nuts and threads to be standard sizes.

Kind of Valves.

Kind: Valves shall be fully mounted with bronze or suitable non-corrodible metal, and be either of the double disc or made up gate type with bronze or suitable non-corrodible metal mounted wedging devices or have wedge shaped gates with double faces and seats, designed to work equally well with pressure on either side of the gate. The gates (or discs) shall be of cast iron with bronze or suitable non-corrodible metal faces. These faces shall be machined, dovetailed and driven into corresponding machined grooves in gates (or discs) or riveted on with bronze or suitable non-corrodible metal rivets.

The seats for composition rings in body of valve shall be turned and threaded before rings are screwed in.

To Be Water Tight.

Seat and Gate Rings: Both seat rings and gate (or disc) rings shall have smooth and true faces, and make a perfectly water-tight joint.

Valves shall have hub ends suitable for laying with classes B and C American Water Works Association standard pipe. All valves 24 inches in diameter and larger shall be geared.

Bypasses: Where bypasses are required, they shall, unless otherwise specified, be of the following sizes:

16-inch valve,	3-inch bypass
18-inch and 20-inch valves,	3-inch bypass
24-inch and 30-inch valves,	4-inch bypass
36-inch and 42-inch valves,	6-inch bypass
48-inch valves,	8-inch bypass

Weight.—Valves without bypasses shall be approximately not less than the following weights for the respective sizes:

3-inch,	67 pounds
4-inch,	85 pounds
6-inch,	180 pounds
8-inch,	255 pounds
10-inch,	400 pounds
12-inch,	500 pounds
14-inch,	780 pounds
16-inch,	900 pounds
18-inch,	1,290 pounds
20-inch,	1,700 pounds
24-inch, geared,	2,750 pounds
30-inch, geared,	5,200 pounds
36-inch, geared,	8,500 pounds
42-inch, geared,	12,000 pounds
48-inch, geared,	18,000 pounds

Valve Stems.

Stems: Valve stems shall be made of solid brass or suitable non-corrodible metal, free from defects, and shall have a tensile strength of not less than 45,000 pounds per square inch.

Threads: Threads on stems to be square, acme or $\frac{1}{2}$ V, and cut in most perfect manner, so as to work true and smooth and in perfect line throughout the lift of the valve.

Size of Stems: Valve stems at the bottom or base of the thread shall not be less than the following sizes in diameter:

3-inch valve,	44-64 inch
4-inch valve,	55-64 inch
5-inch valve,	55-64 inch
6-inch valve,	1 inch
7-inch valve,	1 inch
8-inch valve,	1 inch
9-inch valve,	18-64 inch
10-inch valve,	18-64 inch
12-inch valve,	112-64 inch
14-inch valve,	112-64 inch
16-inch valve,	128-64 inch
18-inch valve,	128-64 inch
20-inch valve,	148-64 inch
22-inch valve,	148-64 inch
24-inch valve,	162-64 inch
30-inch valve,	212-64 inch
36-inch valve,	232-64 inch
42-inch valve,	248-64 inch
48-inch valve,	332-64 inch

Wrench Nut: The wrench nut on stem shall be 2 inches square with arrow cast on showing direction which valve is to turn to open.

Painting.

Painting: All iron work, after being thoroughly cleaned, to be painted throughout with asphaltum varnish, or suitable paint, or dipped in suitable coating material.

Testing.

Testing: Valves must be tested for leakage and distortion as follows: On double disc or made up gate type, the body of the valve shall be drilled and tapped with a hole for pipe and a removable plug inserted, through this hole a hydraulic pressure of 300 pounds per square inch shall be applied; the wedge shaped gate type by an hydraulic pressure of 300 pounds per square inch applied, first between one end and the gate, second between the opposite end and the gate, and third in the bonnet with gate open.

WATER PURIFICATION PLANTS.

Methods Employed in One Hundred and Twenty Cities.—Sedimentation, Filtration, Treatment With Alum, Hypochlorite, Copper Sulphate, Softening and Aeration.

Among the items of information collected from several hundred cities by Municipal Journal a few weeks ago, but which were not included in the tables of our water works number, was the treatment which the several cities give their water supplies, if any. Thirty-four private plants reported treating their water in some way, and 86 municipal plants. These constituted 52 per cent of all reports received from private plants and 27 per cent of those received from municipal ones; thus apparently indicating that municipal plants were much less ready to adopt methods of purification than were the private plants. To what extent this conclusion would be nullified by relative local conditions of private and municipal plants it is impossible to say, but it hardly seems probable that there would be sufficient difference in conditions affecting the two kinds of plants as a class to entirely or very considerably account for this difference in percentage of plants treating their water supplies.

The exact kind of treatment was not always clear from the brief descriptions given, the greatest doubt existing in the case of filter plants as to whether they were mechanical or slow sand. In the majority of cases this was not stated, and these were classed simply under the head of filtration. Thirty-one municipal plants and 13 private plants reported filtration; 19 municipal and 12 private reported mechanical filtration, and 6 municipal and 3 private, slow sand filtration. Sedimentation is

employed by 16 of the municipal and 9 of the private plants, in two cases assisted by the use of alum. Hypochlorite is used by 37 of the municipal and 16 of the private plants; sulphate of copper for destruction of algae is used in 4 municipal and 2 private plants, while 10 municipal and one private plant report that they "treat the water for algae," without specifying the method of treatment. Aeration is used in 3 municipal plants and one private plant, and hard water is softened by 3 municipal plants. The accompanying table shows in detail the facts as submitted by each of the several cities.

PUBLIC WORK IN ABILENE.

By an unfortunate typographical error on page 216 of our issue of August 14, 1913, under the title "Public Work in Abilene," we printed Abilene, Texas, instead of Abilene, Kansas. Mr. Kenyon Riddle, the city engineer, calls this to our attention as he would gladly correspond with any towns desirous of information concerning the new form of government recently instituted in his city. The plan is an excellent one, approaching the city manager plan, all public improvements, both construction and maintenance, being placed in the hands of the city engineer.

TREATMENT OF WATER.

PRIVATE PLANTS.

Filter.	Mechanical filter.	Slow sand filter.	Sedimentation.	Treated with—			"Treated for algae."	Aeration.	Softened.
				Sulphate of alumina.	Hypochlorite.	Sulphate of copper.			
Torrington, Conn.....	..	..	..	..	X	..	..	..	..
Kankakee, Ill.....	X	..	..	..	..	..	..	..	..
Quincy, Ill.....	X	..	X	..	X	..	X	..	..
Streator, Ill.....	X	..	..	..	X	..	..	..	..
Terre Haute, Ind.....	..	X	X	..	X	..	..	..	..
Valparaiso, Ind.....	..	X	..	..	X	..	..	..	..
Vincennes, Ind.....	..	X	..	..	..	..	..	..	..
Burlington, Ia.....	..	X	X	..	..	..	..	..	..
Des Moines, Ia.....	..	..	..	..	X	..	..	..	..
Atchison, Kan.....	..	..	..	..	X	..	..	..	..
Frankfort, Ky.....	X	..	..	..	..	..	..	..	..
Lexington, Ky.....	X	..	..	..	X	X	..	..	..
Maysville, Ky.....	..	xa	..	..	..	..	..	X	..
Paris, Ky.....	..	X	..	..	..	..	..	..	..
Biddeford, Me.....	X	..	..	..	..	..	..	..	..
Escanaba, Mich.....	..	X	..	..	..	..	..	..	..
Menominee, Mich.....	..	..	..	..	X	..	..	..	..
Crookston, Minn.....	..	X	..	..	X	..	..	..	..
Livingston, Mont.....	..	..	X	..	..	..	..	..	..
Montclair, N. J.....	..	X	..	..	..	..	..	..	..
Elmira, N. Y.....	X	..	..	..	..	..	..	..	..
Mt. Vernon, N. Y.....	X	..	X	..	X	..	..	..	..
Norwich, N. Y.....	X	..	..	..	..	..	..	..	..
Raleigh, N. Y.....	..	X	..	..	X	..	..	..	..
Seneca Falls, N. Y.....	X	..	..	..	..	..	..	..	..
Chester, Pa.....	X	..	X	..	X	..	..	..	..
Indiana, Pa.....	..	..	X	..	..	..	..	..	..
Pittsburgs, et. al., Pa.....	..	X	X	..	X	..	..	..	..
Washington, Pa.....	X	..	X	..	..	..	..	..	..
Laredo, Tex.....	..	X	..	..	..	..	..	..	..
Ashland, Wis.....	..	..	X	..	X	..	..	..	..
Newport News, Va.....	X	..	..	..	X	X	..	..	..
Everett, Wash.....	..	..	X	..	..	..	..	..	..
Superior, Wis.....	..	X	..	..	..	..	..	..	..
Totals	13	12	3	9	16	2	1	1	..

MUNICIPAL PLANTS.

Fort Smith, Ark	X	..	..	..	..	..	X	X	..
Hartford, Conn.....	..	..	..	..	..	X	..	..	..
Putnam, Conn.....	..	..	X	..	..	..	..	..	..
South Norwalk, Conn.....	..	..	X	..	..	..	..	..	..
Willimantic, Conn.....	X	..	..	..	..	..	..	..	..
Wilmington, Del.....	..	X	..	X	..	X	X	..	..
Athens, Ga.....	X	..	..	..	..	X	..	..	..
Atlanta, Ga.....	..	X	..	..	..	..	..	..	..
Elberton, Ga.....	..	X	..	X	..	..	..	..	..
Rome, Ga.....	X	..	..	..	..	..	..	..	..
Decatur, Ill.....	..	X	..	..	..	X	..	..	..
Macomb, Ill.....	X	..	..	..	..	..	..	..	..
Evansville, Ind.....	X	..	..	..	..	X	..	..	..
Ames, Ia.....	..	..	..	..	..	..	..	X	..
Cedar Falls, Ia.....	..	..	..	..	..	X	..	..	..
Council Bluffs, Ia.....	..	..	..	X	..	X	..	..	..
Fort Dodge, Ia.....	..	..	..	..	..	X	..	..	..
Sioux City, Ia.....	X	..	..	..	..	X	..	..	..
Cherryvale, Kan.....	..	X	..	X	..	..	..	..	..
Fort Scott, Kan.....	..	..	..	X	X	X	..	..	..
Horton, Kan.....	X	..	..	X	..	..	..	..	..
Winfield, Kan.....	..	xa	..	..	..	..	..	..	..
Danville, Ky.....	X	..	..	X	..	..	..	..	..
Louisville, Ky.....	..	X	..	..	..	..	..	..	..
New Orleans, La.....	..	X	..	X	..	..	..	..	X
Reading, Mass.....	..	X	..	..	..	..	..	..	..
Alpena, Mich.....	..	..	..	..	..	X	..	..	..
Battle Creek, Mich.....	..	..	..	..	..	X	..	..	..
Flint, Mich.....	X	..	..	..	..	..	..	..	..
Ishpeming, Mich.....	..	..	..	..	..	..	X	..	..
Marquette, Mich.....	..	..	..	..	..	X	..	..	..
Chisholm, Minn.....	X	..	..	..	..	X	..	..	..
Minneapolis, Minn.....	..	X	..	..	..	X	..	..	..
Meridian, Miss.....	X..	..	..	..	..	..	..	..	..
Kansas City, Mo.....	..	..	..	X	..	X	..	..	..
St. Louis, Mo.....	..	..	..	X	X	X	..	..	X
Lincoln, Neb.....	..	..	..	..	..	X	..	..	..
Dover, N. H.....	X	..	..	..	..	..	..	..	..
Somersworth, N. H.....	..	X	..	..	..	xb	..	..	..
New Brunswick, N. J.....	..	..	..	..	..	X	..	..	..
Rahway, N. J.....	X	..	..	..	..	X	..	..	..
Trenton, N. J.....	..	..	..	..	..	X	..	..	..
Binghamton, N. Y.....	X	..	..	X	..	X	..	..	..
Dansville, N. Y.....	..	..	..	..	..	..	X	..	..
Gloversville, N. Y.....	..	..	..	..	..	..	X	..	..
Goshen, N. Y.....	..	..	..	..	..	..	X	..	..
Hudson, N. Y.....	..	..	X	..	..	..	..	..	..
Kingston, N. Y.....	X	..	..	..	..	..	..	..	..
Mechanicsville, N. Y.....	X	..	..	..	..	..	..	..	..
Ogdensburg, N. Y.....	..	..	X	..	..	..	..	..	..
Ossining, N. Y.....	..	..	..	..	..	..	X	..	..
Pekskill, N. Y.....	..	..	X	..	..	..	..	..	..

**TREATMENT OF WATER.
PRIVATE PLANTS.—Continued.**

Filter.	Mechan- ical filter.	Slow sand filter.	Sedi- menta- tion.	Sulphate of alumina.	Treated with		"Treated for algae."	Aera- tion.	Soft- ened.
					Hypo- chlorite.	Sulphate of copper.			
White Plains, N. Y.	..	..	..	..	..	..	x	..	..
Yonkers, N. Y.	x	..	..	..	..	..	..	..	..
Gastonia, N. C.	x	..	..	..	..	..	..	..	..
Rocky Mount, N. C.	x	..	x	..	x	..	..	..	..
Wilmington, N. C.	x	..	..	..	x	..	..	..	..
Fargo, N. D.	x	..	..	..	..	..	..	..	..
Grand Forks, N. D.	..	x	..	..	x	..	..	..	..
Cincinnati, O.	x	..	x	..	x	..	x	..	..
Cleveland, O.	..	..	..	..	x	..	..	..	..
East Cleveland, O.	..	..	..	..	xb	..	..	..	..
Elyria, O.	..	xa	..	..	..	..	..	..	..
Youngstown, O.	x	..	..	..	..	..	..	..	..
Guthrie, Okla.	..	xa	..	..	..	..	..	..	..
Oklahoma, City, Okla.	..	..	..	..	..	..	..	..	..
Okmulgee, Okla.	x	xa	x	..	x	..	x	..	..
Oregon City, Ore.	x	..	..	..	..	..	..	..	..
Lancaster, Pa.	x	..	..	..	..	..	..	..	..
Lebanon, Pa.	..	..	..	..	..	..	x	..	..
McKeesport, Pa.	..	xa	..	..	..	..	..	..	x
Reading, Pa.	x	..	..	..	..	x	..	..	..
Steelton, Pa.	..	x	..	..	..	..	..	..	..
Abbeville, S. C.	x	..	..	..	..	..	..	..	..
Union, S. C.	..	x	..	..	..	..	..	..	..
Clarksville, Tenn.	x	..	..	..	x	..	..	..	..
Dyersburg, Tenn.	x	..	..	..	..	..	..	..	..
Burlington, Vt.	..	x	..	..	x	..	..	..	..
Rutland, Vt.	..	..	..	..	x	..	..	..	..
Richmond, Va.	..	..	x	..	..	..	..	..	..
Milwaukee, Wis.	..	..	..	..	x	..	x	..	..
Cheyenne, Wyo.	..	..	..	..	..	..	..	..	..
Calgary, Alta.	..	..	..	..	x	..	..	..	..
Kingston, Ont.	..	..	..	..	x	..	..	..	..
St. Catharines, Ont.	..	..	x	..	..	..	..	x	..
Toronto, Ont.	..	..	x	..	x	..	..	..	..
Totals	31	19	6	16	2	37	4	10	3

a—Lime and iron sulphate process. b—Liquid chlorine gas process.
Oil City, Pa., and Lethbridge, Alta., strain through a natural bed of sand and gravel; Pawtucket, R. I., through gravel; Harrisburg, Pa., through natural sand.

SEWERAGE PLANS AND REPORTS.

A New Jersey state law of 1900 provides that all plans for building sewers or sewage disposal plants or water purification plants within that state must be approved by the state Board of Health. Plans for this purpose have been submitted to the Board in all sizes up to 6 feet by 10 feet and on all kinds of paper from the ordinary wrapping kind up to tracing cloth. The reports and data submitted with the plans are frequently too meagre for the purpose, sometimes owing to the insufficient information possessed by the designing engineers. The Board states that "it is an unfortunate circumstance that some few engineers who have worked along other lines will accept work designing municipal sewage disposal or water purification plants apparently without investigating the underlying principles as thoroughly as is desirable."

In view of these conditions, the Board of Health on June 23d adopted rules and regulations governing the submission to them of designs for work of this kind. The regulations were prepared by C. G. Wigley, engineer of the Board, under the supervision of R. B. Fitz-Randolph, chief of the Division of Food, Drugs, Water and Sewerage. Before taking final action upon these regulations they were submitted to several of the leading sanitary engineers, by whom many helpful suggestions were made.

These rules call for the submission of the following in connection with sewerage and sewage disposal plants:

A general map of the municipality or sewerage district, to a scale of 100 to 300 feet to the inch, showing the entire area; larger cities to be shown on two or more maps each not more than 30x48 inches. This map is to show streets, surface elevations at street intersections and contour lines at intervals of not more than 10 feet; also existing sewers, proposed sewers, location of disposal works, title, scale, etc.; direction of flow of streams, average water elevation, and elevation at highest known freshets. Sewers to be built at once are to be shown by solid lines; those later, by dashes; existing sanitary sewers, by dotted lines, and existing combined sewers, by dots and dashes. Street surface elevations to be placed outside the street lines in the upper right angle, or opposite the position referred to. Elevation of sewer inverts to be shown at street intersections, ends of lines and wherever change of grade occurs; such figures

to be written parallel to the sewer line and between the street lines. Appurtenances to be indicated by symbols explained by a legend near the title.

Profiles must be submitted of all sewers above 18 inches in diameter, and of 8-inch sewers where the gradient is less than 4 feet in 1,000. A vertical scale of 10 feet to one inch and a horizontal scale of 100 feet to one inch are suggested. Profiles must show manholes, etc., stream crossings, with elevations of water and figures giving the size and gradients of sewers, surface elevations, sewer inverts, etc.

There must also be detailed drawings of sections of sewers other than vitrified or iron pipe and of all sewer appurtenances and special structures. These plans should be from 20 to 30 inches high and from 24 to 48 inches long. Drawings may be traced directly on tracing cloth, printed on transparent cloth, or on any of the various papers which give distinct lines.

If there are disposal works, general and detailed plans must be submitted, including a general plan upon which reserve areas for future extensions are clearly shown, and detailed plans of the various units and structures. These plans should show by longitudinal and transverse sections the construction of each unit, distributing and drainage systems, sizes of stone or other filtering material, general arrangement of any automatic devices, etc.

Finally there must be a comprehensive report upon the proposed system, to be typewritten on letter size paper and to contain information concerning the nature and extent of the area to be sewered, population to be served twenty-five years from now, estimated sewage flow, water consumption, allowance for leakage into sewer, character of sewage, method of flushing or periodically cleaning the sewers, minimum grades for each size of sewer, portion of sewer to be built at the present time, extent of areas which cannot be drained into proposed system and probable future treatment of such sections, and distance of sewer outlet from shore and depth of water at outlet at mean tide. Plans for disposal plant must describe the method to be adopted and a description of one unit of the system, the rate of working of each unit, quantity and kind of any disinfectant which it is proposed to use and method of application, nature and volume of body of water into which the effluent discharges, disposal of sludge, local peculiarities which affect design, special devices used or special methods of maintenance, and the results expected from the system. There must also be submitted specifications and estimate of cost.

Applications for permission to construct water supply or water purification systems must similarly be accompanied by maps, plans, reports, etc., differing of course in details from those provided for in the case of sewerage, but following the same general lines.

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CHANGE OF ADDRESS

Subscribers are requested to notify us of changes of address, giving both old and new addresses.

Contributions suitable for this paper either in the form of special articles or of letters discussing municipal matters, are invited and paid for. Subscribers desiring information concerning municipal matters are requested to call upon MUNICIPAL JOURNAL, which has unusual facilities for furnishing the same, and will do so gladly and without cost.

SEPTEMBER 4, 1913.

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Classifying Roadway Pavements.

We have several times advocated in this journal that the planning of roadway and sidewalk pavements be placed in the hands of some one city official or body, such as the superintendent or Department of Public Works, city engineer, etc., who should plan both the kind of pavement and the order in which the construction should progress, as is now the general custom in constructing sewers. For those cities which are not willing to take the matter to this extent out of the hands of the abutting property owners, or where city charters or state municipal laws prevent it, we recommend for consideration the method adopted by the commissioner of public works of Portland, Oregon, as stated in our issue of August 14, page 218. In general this idea is to select certain types of pavement which are suitable for each class of traffic, and limit the choice of pavement by abutting property owners to the kinds suitable for their particular street. In this way the owners know beforehand whether or not a given kind of pavement will be permitted on their street, and can thus confine their attention and efforts to three or four stated kinds. Another advantage of this is that, in receiving bids, competition can be obtained between patented pavements and unpatented ones, thus meeting the provision of many state laws that there must be competition for all municipal work contracted for.

There will, of course, be objections raised by both citizens and paving contractors to any classification of

paving materials and methods which may be made, and to limit this to a minimum and also to secure the best results, we would suggest to those organizations of engineers which are especially interested in road paving that they establish standard classifications or grouping of the various kinds of pavements in accordance with the traffic which they are calculated to successfully and economically withstand.

Efficiency in Municipal Work.

Rankine defined efficiency as "the ratio of useful work to energy expended"; or Work divided by Energy equals Efficiency. So when a municipal official claims to operate his department efficiently he means that the amount of useful work which that department performs is large as compared to the energy which is put into it.

On what does he base his claim? In a great many cases solely on the fact that he has employed less energy (as represented by expenditures) than in previous years or than is employed in other cities of the same size. He has decreased the divisor; concerning the dividend he says nothing and yet assumes that the quotient is increased.

The only method by which actual efficiency can be ascertained is to find the true value of both useful work done and energy actually employed in doing that work. Any official who can not produce definite figures for those qualities is simply guessing, and may be deceiving himself as well as the taxpayers who furnish the "energy," when he claims to be efficient. The most he can do is to say—truthfully, let us hope—that he has done his best.

But we believe the time has come when the public demands that each municipal department keep such records and make such reports of the work done and funds expended by it as will enable any intelligent citizen to *know* how efficiently the work has been done. The chief difficulty in the way of this (aside from personal inertia of officials) is the absence of recognized units in which to express the work done. Scores of volumes have been written dealing with the recording and classification of expenditures, but not one devoted to the subject of units for expressing and comparing the results obtained. Many cities can now calculate to a nicety the cash payments, department credits, depreciation, interest account, overhead charges, etc., involved in street cleaning; but probably no two can compare results obtained, except in terms of the very unsatisfactory unit of square yards cleaned, which takes no account of whether the same area was both rough-cleaned and flushed, how much dirt was removed, how often it was cleaned, the nature of the surface, the nature and amount of traffic, and a number of other conditions which seriously affect the measure of work done.

This subject of units of measurement of results accomplished by municipal departments is being considered by a committee of the American Society of Municipal Improvements, and will be one of the features of its convention at Wilmington in October. The committee realizes the difficulty of the problem, and has no idea of evolving at once a complete set of units for all branches of municipal activity, nor indeed for any one. It does hope, however, to be able to recommend a few fundamental units, representing the simplest terms in which can be expressed the results obtained by five or six of the more important departments of the average city. It is hoped that all officials or others who have definite ideas on this subject will attend the convention, and meantime correspond with the secretary of the committee, J. C. Hallock, City Hall, Newark, N. J.

NEWS of the MUNICIPALITIES

Current Subjects of General
Interest Under Consideration

by City Governments
and Department Heads

ROADS AND PAVEMENTS

New York Apportionment of Highway Fund.

Albany, N. Y.—John N. Carlisle, Commissioner of Highways, has completed the apportionment of the second \$50,000,000 which was authorized in the referendum at the general election of 1912, to be used for the construction and improvement of highways. Under the provisions of that referendum \$20,000,000 is to be used for the construction and improvement of state highways and \$30,000,000 for the construction and improvement of county highways, the money to be equitably apportioned and the apportionment to be based on the population, amount of public highways and the areas of the several counties. The apportionment, as made by Commissioner Carlisle, has been approved as to the method of computation by the Attorney General and the Controller. The apportionment for state roads and for county roads in the counties of central and northern New York follow:

	State.	County.
Albany	\$427,140	\$640,711
Allegany	360,388	540,583
Broome	335,741	503,611
Cattaraugus	445,184	667,776
Cayuga	328,913	493,370
Chautauqua	471,615	707,423
Chemung	210,981	316,472
Chenango	320,997	481,495
Clinton	335,462	503,194
Columbia	274,557	411,835
Cortland	196,653	294,980
Delaware	478,713	718,070
Dutchess	378,309	567,463
Erie	1,113,762	1,670,643
Essex	417,931	626,896
Franklin	414,100	621,163
Fulton	205,458	308,187
Genesee	202,593	303,889
Greene	227,046	340,570
Hamilton	276,780	415,470
Herkimer	400,495	660,742
Jefferson	557,582	836,374
Lewis	331,392	496,938
Livingston	253,638	380,458
Madison	209,150	403,725
Monroe	640,241	960,362
Montgomery	188,144	282,216
Nassau	300,907	451,360
Niagara	295,038	441,058
Oneida	593,113	889,670
Onondaga	552,841	829,261
Ontario	278,783	418,174
Orange	423,662	635,493
Orleans	163,577	245,365
Oswego	391,710	587,565
Putnam	96,457	144,685
Rensselaer	388,010	582,016
Rockland	130,796	196,194
Saint Lawrence	780,977	1,171,466
Saratoga	337,699	506,548
Schenectady	199,412	299,118
Schoharie	232,372	348,558
Schuyler	132,433	198,650
Seneca	156,522	234,783
Steuben	577,806	866,709
Suffolk	471,556	707,334
Sullivan	350,233	525,335
Tioga	201,217	301,826

Road Tax Bonuses for Pennsylvania Townships.

Pittsburgh, Pa.—Bonuses from the state for townships to the amount of \$1,000,000 are now being paid to the officials of the districts. These bonuses go to the townships for the road taxes they collected this year, the warrants being drawn against the State Highway Department. The checks will go to more than 1,400 districts. Two months ago \$250,000 was distributed, the townships of Allegheny county, in which this city is located, getting \$15,757.95 of the total amount. All of the money will be used in improving present roads. According to state figures, gathered by the highway department, \$5,089,976.32 was collected for road purposes in the state.

Sheet Asphalt in Favor.

Baltimore, Md.—The Paving Commission has decided to lay nothing in the future except sheet asphalt paving, except in special cases. This is indicated by the fact that contracts advertised and awarded recently by that body have been confined exclusively to such material. At the last meeting of the Board of Awards two large sheet asphalt contracts were awarded and bids for another calling for that material were opened. Bids for still another contract embracing the laying of 13,550 square yards of sheet asphalt will soon be opened and several other contracts of a like size and nature will shortly be advertised. Chairman R. Keith Compton of the Paving Commission admits that the commission has practically decided to give up vitrified brick, Belgian blocks and other more expensive paving material. As Chairman Compton views it, with the average price of sheet asphalt just one-half the average cost of Belgian block, just twice as much paving can be laid, if sheet asphalt is used. He does not look upon this plan to use the cheaper material as one of quantity instead of quality. He does not profess that the life of a sheet asphalt surface is as long as one of Belgian block. He declares, however, that a sheet asphalt pavement may be resurfaced and given another life quite as long as its original one. The average cost of resurfacing is \$1 per square yard. This extra cost, added to the average original price—\$1.71 per square yard—will bring the total cost for a good pavement, that will last from 25 to 35 years, to \$2.71. The average cost of a Belgian block pavement which will last that long is \$3.50 per square yard. Because of the smooth surface of sheet asphalt paving, Chairman Compton does not contemplate using that material on hills of a grade of more than 5½ per cent.

Standard Bitulithic Work Approved.

Long Branch, N. J.—In three resolutions offered by Woolley, head of the Street Department, the engineer's final estimate of the work done by the Standard Bitulithic Company and his approval have been passed. Cost to the city of the work done by the Standard Bitulithic Company, of Newark, in paving Broadway, North Broadway, South Broadway, Third avenue, to Morris and Second avenue to a point beyond Chelsea avenue aggregates \$120,849.29. The work done on Rockwell avenue, between the New Jersey Southern Railroad tracks and Broadway, and Third avenue, from Morris to Bath, which includes concreting and resurfacing, amounts to \$25,133.83, divided as follows: Rockwell avenue, \$7,083.59; Third avenue extension, \$18,050.24. The city retains \$8,880.69 for a period of five years as a guarantee for maintenance, if any is needed, in addition to a bond for faithful performance of the contract. The passage of the resolutions carried with it the payment of money due the Bitulithic Company, excepting the amount retained as a guarantee of the paving material as previously stated. The amount due the Standard Bitulithic Company for resurfacing the original streets and repairs, less the percentage retained, is \$111,968.60.

200 Miles in Missouri Good Road Day.

Jefferson City, Mo.—Reports from all over the state assure a wonderful success for the "Good Roads' Days." Governor Major, highly elated, estimates that on each day 250,000 men were at work throughout the state, saving for the state \$500,000 a day and that Missouri was "pulled out of the mud" to the extent of 400 miles of new good roads and improvement on hundreds of miles of old ones. Farmers, business men, professional men, workmen and convicts, led by Governor Major of Missouri and Governor Hodges of Kansas and by the mayors in the cities, worked side by side all day and worked well, while the women and children kept them well supplied with food cold drinks and encouragement. In Jackson county alone 2,500 men and 600 teams were at work the first day while on the second these numbers were increased to 3,100 men and 700 teams. Slater county had 83 men, 12 teams, 4 graders and 6 drags. Montgomery county had a turn-out of 300 men and 200 teams while the people of the county have already donated \$10,615 to good road work this year. Between 1,200 and 1,500 men and 200 teams worked on the roads of Franklin county under the supervision of County Highway Engineer J. M. Moore. Morgan county roads were improved by almost 500 men while those of Barton county had fully 1,000. Platte county claims the banner for good road work in proportion to population: 1,600 men worked on the first and 2,300 on the second day under the direction of 42 road overseers and 225 captains, completing 216 miles of road on the first day alone. Nearly 3,000 men and 1,000 teams put in two days of work in Marion county. St. Francois county responded splendidly with 4,000 men and 1,000 teams. The workers are chopping out the right of way, destroying weeds, digging, grading and hauling, while in Callaway county the governors were at the steering and operating wheels of a traction road grader. Moving pictures to the extent of over a 1,000 feet were taken of the work in Callaway, Boone, Mason and Cole counties, where special powerful road machinery was worked, and will be exhibited throughout the United States, Canada and foreign countries. According to the governor the biggest lesson to be learned by Missouri is the necessity of more machinery. Each county, says the governor, ought to invest about \$4,000 in graders which would accomplish what to men with picks and shovels is a very tedious and an almost insuperable task.

Keeping his recent promise Governor Major has commuted by thirty days the sentences of all those convicts who volunteered for work on the roads, and as a result of this commutation 21 convicts have been released. In every county the people are giving freely money as well as the strength of their hands—good road enthusiasm has gripped the state. Encouraged by the tremendous success of the movement in his state Governor Major is planning the institution of national "Good Roads' Days" on August 20 and 21, to be announced by the governors as is Thanksgiving Day. Governor Hodges of Kansas who worked with Missouri's governor has given the movement his unqualified endorsement.

Lincoln, Neb.—Following the success of Missouri's "Good Roads' Days," Gov. Morehead intends soon to issue a proclamation calling upon the people of Nebraska to devote two days to the building of good roads in this state. Gov. Morehead signified his willingness to don working-

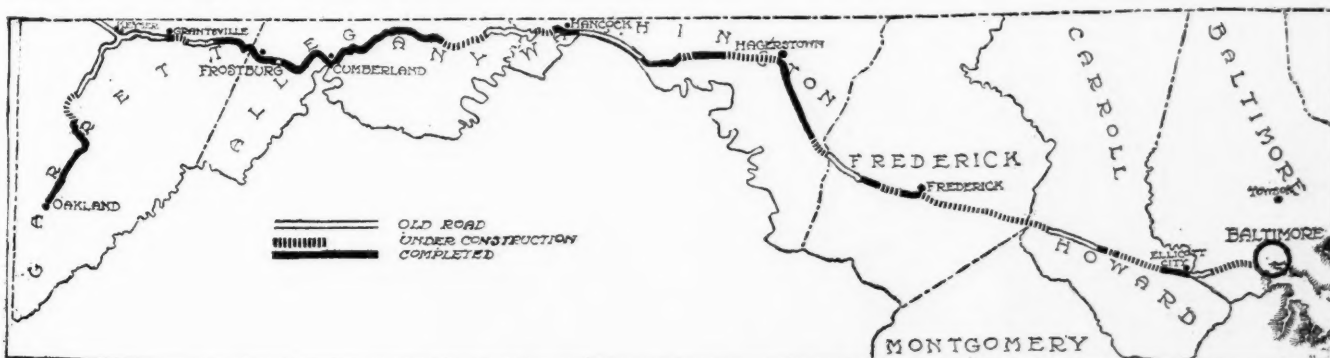
men's clothing and assist in any capacity he could. No definite dates for the issuance of the proclamation or the days to be devoted to road building have as yet been announced.

Philadelphia Breaks Contractors' Grip.

Philadelphia, Pa.—According to Director Cooke, a saving of \$41,000 for the city and the breaking of the grip of the contractors' combine that has exploited Philadelphia for years have been accomplished, the Department of Public Works having awarded a contract for the completion of the South Broad street boulevard to the Hassam Paving Co., of Worcester, Mass. The bid of the Hassam Company was \$185,950.94, and was the only one of the four proposals submitted that came within the \$210,000 that is available for the work. For the first time in years an outside contracting firm has dared to enter Philadelphia in a genuine effort to obtain a municipal contract. Heretofore reputable contractors from other cities avoided competing in this city, knowing that the local combine of contractors would soon effect their ruin through politically controlled inspectors. Director Cooke declared that there is no reason why Philadelphia should not profit by open competition as does Boston, New York and Chicago. He added that had the Hassam Company not entered the field at this time it would have been impossible to complete the boulevard. The boulevard constructed by the Contractor Edwin H. Vane which was found to be useless owing to settling, is included in the new contract.

A Tri-State Highway.

Baltimore, Md.—Chairman O. E. Meller, of the State Roads Commission, in a detailed statement setting forth the status of the road work throughout the state, says that there are 1,285 miles of road to be built before the system is completed. By the time the General Assembly meets all the money appropriated by the legislature two years ago, amounting to \$3,100,000, will have been exhausted; the money having been expended for completed roads or set aside for payment to contractors for those in course of construction. All of the counties have received their allotments, but there is more coming to the city, a great deal of the work here being held up by reason of the sewerage construction. As it is there are now two important sections leading out of the city under way and the expense involved is about \$400,000. Altogether the state will have expended about ten million dollars on the system, but more is required to fill in the gaps and complete the chain. Here and there are stretches of from one to 15 miles for which no provision has been made, and the data now being prepared by Chairman Meller is to be submitted to the Governor for reference by him to the General Assembly. It is more than likely that something like \$6,000,000 will be asked this time, which amount will come very near finishing the main system. The most important single piece of work is on the Baltimore-Oakland highway, which is really a reconstruction of a very old road. On the entire road which will be 162 miles to the Pennsylvania state line, the State is building culverts, repairing massive stone bridges, some over 100 years old, and laying a new surface. At the Pennsylvania line the work is to be taken up by Pennsylvania State Road Commission, which will rebuild the old National road to the western boundary of that State near Wheeling, where West Virginia will take up the work.



THE BALTIMORE-OAKLAND HIGHWAY.

Illinois Counties' Road Apportionments.

Springfield, Ill.—The new State Highway Commission has announced a preliminary estimate of proposed allotments of the state aid fund for good roads, which will be made to each county in Illinois that has complied with the law empowering the commission to make final allotment. The provisional allotments are given out in order that the counties which propose to avail themselves of their share of the fund may make provision for the same by arranging to raise a like amount in compliance with the good roads statute. According to the allotment, the amount available in each county from the automobile tax is the same for this year and next, but to next year's automobile fund allotment is to be added the share of the fund provided by special state appropriation, in accordance with the provisions of the new state aid law. It is estimated that the total amount to accrue from the automobile tax each year will be \$400,000. The special state appropriation for the year 1914-15 will total \$300,000. The fund is provisionally allotted to each county in the state as follows:

Adams, \$9,856; Alexander, \$3,253; Bond, \$5,099; Boone, \$4,617; Brown, \$2,632; Bureau, \$21,258; Calhoun, \$1,070; Carroll, \$7,777; Cass, \$3,529; Champaign, \$25,867; Christian, \$14,842; Clark, \$5,294; Clay, \$3,297; Clinton, \$6,088; Coles, \$8,432; Cook, \$120,320; Crawford, \$18,196; Cumberland, \$3,099; De Kalb, \$16,662; De Witt, \$9,000; Douglas, \$9,444; Du Page, \$14,839; Edgar, \$13,175; Edwards, \$1,312; Effingham, \$5,772; Fayette, \$7,686; Ford, \$7,862; Franklin, \$5,082; Fulton, \$19,310; Gallatin, \$2,612; Greene, \$7,895; Grundy, \$10,585; Hamilton, \$3,825; Hancock, \$12,069; Hardin, \$412; Henderson, \$5,753; Henry, \$15,433; Iroquois, \$27,544; Jackson, \$6,039; Jasper, \$3,569; Jefferson, \$4,180; Jersey, \$3,168; Jo Daviess, \$7,489; Johnson, \$1,413; Kane, \$26,400; Kankakee, \$11,385; Kendall, \$8,338; Knox, \$12,182; Lake, \$15,505; La Salle, \$34,081; Lawrence, \$6,484; Lee, \$11,577; Livingston, \$14,897; Logan, \$14,099; McDonough, \$7,529; McHenry, \$14,283; McLean, \$26,150; Macon, \$18,295; Macoupin, \$11,709; Madison, \$20,218; Marion, \$6,325; Marshall, \$6,564; Mason, \$6,960; Massac, \$1,480; Menard, \$3,177; Mercer, \$10,169; Monroe, \$2,368; Montgomery, \$12,523; Morgan, \$7,156; Moultrie, \$5,744; Ogle, \$14,294; Peoria, \$26,265; Perry, \$2,305; Piatt, \$8,434; Pike, \$7,870; Pope, \$990; Pulaski, \$1,496; Putnam, \$2,865; Randolph, \$2,838; Richland, \$2,555; Rock Island, \$7,153; St. Clair, \$14,061; Saline, \$7,254; Sangamon, \$18,403; Schuyler, \$5,789; Scott, \$2,081; Shelby, \$9,779; Stark, \$5,503; Stephenson, \$7,857; Tazewell, \$11,819; Union, \$1,620; Vermilion, \$30,476; Wabash, \$2,995; Warren, \$12,865; Washington, \$5,357; Wayne, \$4,983; White, \$8,189; Whiteside, \$13,145; Will, \$22,874; Williamson, \$6,765; Winnebago, \$20,897; Woodford, \$8,068.

Bridgeport Streets Progressing.

Bridgeport, Conn.—The contractors at work on this city's streets are rushing operations at a great pace. About half of the granite block pavement to be laid on Barnum, between Seaview and Central avenues, is laid, and the grouting of the blocks has been started. In the meantime the Hassam Construction Company of New Haven has three men at work laying the other half of the granite blocks which are still to be laid. Contractor William H. Arthur of Stamford promises to break all records on the paving of John and of Courtland streets. He was allowed 30 days in which to finish each of these pavements. He said, and the statement was confirmed by the director of public works, that he will complete both streets within the next ten days, or the time allowed for the John street job alone. Warren Brothers have finished laying the warrenite pavement on the south side of Fairfield avenue between the railroad viaduct and Ash creek and this side of the street, from end to end, will be opened to traffic immediately. Fairfield avenue will be completed this month.



Courtesy Elizabeth Daily Journal.
THE MOSQUITO FIGHTERS.

SEWERAGE AND SANITATION

Extensive Mosquito Extermination Campaign.

Elizabeth, N. J.—The Union County Mosquito Extermination Commission is engaged in extensive operations to rid the county of the mosquito pest. The work under the direction of Chief Inspector Gies is now well advanced, deep ditches having been driven, under very difficult conditions, to drain woodland pools and carry tidewater off the acres of salt marsh meadows, cattle-fouled swamps having been filled in and builders and contractors having been forced to prevent accumulation of rainwater in excavations and the existence of any possible breeding places. The county is divided into six districts, and in each there are inspectors who are held to strict account for their territory. In this way every residence in the county is visited once every twelve days. Each day 2,500 house-to-house inspections are made in the county. Up to August 1 more than 175,000 had been made.

In the same period all undrained swamps and pools are inspected and well oiled. Breeding is being found constantly, but the inspectors usually destroy the larvae before it matures and eliminate the pest spot either by oiling it, or, if it happens to be a rain barrel, upsetting it. The scarcity of mosquitoes this year as compared to a few years ago is proof of the efficiency of this continued surveillance, Mr. Gies claims. The great ditch shown in the illustration has just been cleaned. It is more than a mile long and averages four feet in width and four feet in depth. It cost \$1,400 to dig. Connecting it are numerous smaller drains, ten inches wide and thirty inches deep.

This work on the meadows, which was started by Health Officer Richards and the local Board of Health some years ago, has reclaimed many acres of salt marsh hay land and has increased the yield from seven-tenths of a ton an acre before drainage to two and four-tenths tons per acre at present, and with a quality of the fodder that brings \$8 per ton. It is more easily harvested now because of the solid bottom which admits driving wagons on territory which before could not be reached. On the outskirts of Cranford the Springfield avenue dumps are being treated through the draining of a swamp. A trench is being dug and in the bottom of it terra cotta pipes about nine inches in diameter will be laid and the trench filled in again. These pipes will form a passageway for the water from the swamp to the Cranford River.

In Inman avenue, Rahway, there is a condition that is the most difficult the inspectors have yet encountered.



Courtesy Elizabeth Daily Journal.
THE DRAINAGE DITCH.

WATER SUPPLY

Paying Municipal Water Works.

Sheboygan, Wis.—The annual report of the city works just completed and forwarded to the Railroad Commission, shows that the total net profits of the system for the year were \$47,681.13. The total operating revenue or receipts of the plant for the year was \$89,603.14. This includes \$14,073.80 charged for hydrant rental as formerly paid to the old private company and \$1,954.96 for street sprinkling, leaving \$72,843.30 derived from regular water rentals. The total operating expenses were \$33,617.67 which included \$12,464.56 for pumping expenses and \$15,035.62 charged to depreciation. The expenses for bonds and interest aggregated \$13,840, leaving a net profit over expenses and depreciation of \$47,681.13. These figures do not include the taxes formerly paid by the old company and which aggregated \$7,000 or \$8,000 a year. The past year's figures show a notable gain over those of the previous year as the city is steadily growing and the plant expanding. In the year ending June 30, 1912, the total revenues were \$88,194.28. Depreciation was figured at \$14,789.44, and the net revenue at \$41,443.94. The bond expense was \$14,266.66.

Pasadena, Cal.—Actual surplus earnings of the municipal water department for the eight months ending June 30, 1913, were \$18,724, according to a report submitted to the City Commissioners by Commissioner M. H. Salisbury. On the same ratio the actual surplus earnings for one year would be \$30,639.25. This report, drawn up by Chief Accountant Selby, was much praised by the City Commissioners. It proves that the municipal water department, like the city lighting department, is a paying one. The total revenue for the eight-month period was \$141,961.93; the total expenses were \$123,237.93, leaving the actual surplus earnings \$18,724. Statistics of water revenue are given as follows: Water furnished city departments, \$3,443.64; irrigation water, \$3,139.65; domestic water, \$131,514.28; other collections, \$463.90; total amount to be accounted for, \$138,561.47; deduct \$218.62 on the uncollected bills, leaving net total to be accounted for \$138,342.85. Also to be deducted is gross earnings on water revenue from October meter reading to November 5, the date of the formal turning over of the plants, \$6,031.98. This is the amount paid over to the old water companies as part of the purchase consideration as provided in the contract and ordered by the Water Commissioners. With the deductions mentioned the actual water revenue for the eight months of the fiscal year ending June 30, 1913, was \$132,310.87. The grand total of services is 11,060; meters, active, 9,014; on vacant list, 251; flat rates, active, 1,642; on vacant list, 153.

Two Rivers, Wis.—The municipal water and light plant here, according to the report of Superintendent George Wehausen, made a net profit of \$9,771.34 for the year ending July 1. The gross profits shown by the report are \$12,164.77 from which must be deducted the insurance \$228 and the interest on bonds, \$2,165.43. The Water Commission of New London has purchased two acres of land near the Northwestern depot and has advertised for bids for driving seven artesian wells to provide a supply of water for the city with pump having a capacity of 700 gallons per minute, operated by a 50 horse-power motor. A concrete storage tank which will hold 200,000 gallons will also be built. Engineer W. Kirchoffer, of Madison, tested the water and pronounced it pure and soft.

"Good Ponds Days" Now.

Topeka, Kan.—Gov. Hodges has set about finding a force of fifty expert pond builders to supervise the work of building reservoirs throughout Kansas, in furtherance of the governor's plan to conserve in winter and spring enough water to tide the farmers over such drought as has menaced the state in the last three weeks. It is the governor's plan to designate a "pond week" this month after the manner of Gov. Major of Missouri in proclaiming "road days" for the improvement of the highways of that commonwealth. He hopes to see 100,000 ponds averaging at least an acre in area, built over the state for the conservation of the coming winter's snow and rainfall.

STREET LIGHTING AND POWER

City Competes With Company in Electricity Supply.

Springfield, Ill.—Commissioner Spaulding's proposed ordinance fixing rates for electric current supplied general consumers by the municipal plant has been passed by the council. By the ordinance the smallest consumer is supplied at a rate of eight cents per kilowatt hour. The same class of consumer now pays the Utilities Company thirteen cents per kilowatt hour. Until improvements at the lighting plant now planned by Commissioner Spaulding have been made, only three or four private consumers will benefit by the lower rates charged by the city. The improvements, which probably will be made in the course of the next year, will make it possible for any private consumer in the city to buy electricity from the city.

\$27,000,000 Power Dam Dedicated.

Keokuk, Ia.—With Governor George W. Clarke, of Iowa, to welcome visitors to the Hawkeye domain, and Mayor J. F. Elder extending the hand of fellowship on behalf of the city, the Keokuk and Hamilton \$27,000,000 power dam has been formally dedicated. A parade through the business streets and to Rand park, where the formal exercises were held, was a feature of the day. In the line of march were hundreds of school girls carrying floral arches. Boy Scouts bearing a replica of the dam led this division, followed by national guards. Many of the prominent citizens of Keokuk and Hamilton were in line. C. R. Joy, president of the Keokuk Industrial Association, presided at the ceremony of dedication.

Municipal Light Plant a Success.

Palo Alto, Cal.—Edward Ackley, member of the Palo Alto city council is an enthusiastic advocate of municipal ownership, particularly in the case of smaller cities. He says that Palo Alto, through municipal ownership of her electric light plant, has been successful in reducing rates. They have been cut, he says, from 20 cents a kilowatt hour under private ownership of the light plant, to 3 cents for commercial purposes and 7 cents for light, and the city is considering a further reduction, to 2½ cents and 6 cents. Palo Alto also owns her own water system and is thinking of acquiring the gas plant, which is now owned by a private corporation. The city has an option on the plant. A lowering of gas rates from \$1.50 to \$1.20 recently became effective in Palo Alto through an order of the state railroad commission. When the city became owner of its electric light plant it cut the rates to 10 cents a kilowatt hour, whereupon the private company made the same cut. Further reductions followed. Municipal ownership of the water plant has been a great success. The policy is followed in both water and electricity cases, of lowering the rates every time a surplus shows.

FIRE AND POLICE

No Water for Fire Protection Only.

San Francisco, Cal.—Holding that under the laws of the State an individual cannot require a water company to supply water solely for fire protection purposes, the Railroad Commission has handed down a decision considered of far-reaching importance to the municipalities of the State. The decision was rendered in the dismissal of the complaint of E. P. Lewis of Berkeley against the People's Water Company, in which Lewis claimed the utility's mains on certain Berkeley streets were not sufficient to furnish fire protection.

In its decision the Commission said in part:

We are confronted with the practical question as to how an individual is to secure adequate fire protection for a house located in outlying sections of a territory supplied by a water company in which the size of the mains and the pressure are not sufficient to furnish fire protection. In some cases, the courts have suggested that a loss by fire may be guarded against by insurance, and that the collection of the insurance, if a fire results, is an adequate remedy. While such remedy may seem adequate in law, it will afford little comfort to a person who is compelled to stand helplessly by and see his property destroyed.

The desired fire protection may, of course, be secured by contracts with water companies on the part of municipalities and individuals in case the utilities are willing to enter into

such agreements. Such conditions as may be deemed necessary may doubtlessly be inserted in charters and franchises and become operative as to water utilities hereafter entering the field, but this procedure could not be availed of as to companies now operating under existing charters and existing franchises not containing the desired conditions.

San Francisco and Oakland and possibly other cities in this State have at public expense installed auxiliary fire protection systems. It may be that other cities of California will find such a course to be the logical solution of the difficulty with reference to fire protection in cases in which the existing water plants do not, in connection with their domestic service, supply facilities and water sufficient for fire-protection purposes. When a city installs a fire-protection system, it acts under the same theory under which it acts when it installs adequate police protection. In either event it acts in pursuance of the public safety and general welfare.

Ownership and operation of the existing water plants by the municipalities will not in and of itself provide the declared remedy, for the reason that it has been universally held that a municipality owning and operating its own water system is not liable for damages for destruction of property caused by the failure of fire-protection purposes.

The subject is one which demands careful consideration by our public authorities.

Dispute Control of Fire Department.

Belleville, N. J.—The dispute between the Town Council and the Board of Fire Commissioners as to the control of the fire department which has been waged since 1912 when the form of government changed from that of a township to that of a town, has finally resulted in such inefficiency in the protection as to cause the underwriters to exercise noticeable caution in writing premiums. In January, 1912, the fire board refused to give up the papers and property of the department to the Council, and the matter is now before the Supreme Court. In a letter received by the Firemen's Relief Association one of the largest agencies explains the non-payment of the usual remittance for the 2 per cent. tax on the premiums by the unwillingness on the part of the companies to write freely on account of the limited fire protection. This has aroused the relief association and the property owners and immediate action is planned. The dispute will be given an airing at the State convention of the Firemen's Relief Association in Atlantic City next month. Fire Chief Christian Reinhardt, the Town Council appointee, and Fire Chief James K. Provett, the selection of the Board of Fire Commissioners, both claim the right to act as a delegate of the local association at the convention. Provett was named by the association as one of its representatives along with William Ellis, Joseph G. Reid and Moses M. Ryne. Reinhardt will make a fight on the convention floor.

Exhibition of Police Dogs.

New York City, N. Y.—Police officials from various cities were present in Van Cortlandt Park to watch the exhibition of the dogs which have been taught for use by the police. Pascha, owned by B. H. Throop, of Scranton, Pa., was the star of the day, and did some very fine fence jumping. He gave an interesting exhibition of detective work in trailing a supposed assailant of a make-believe policeman. The latter was encased in tough canvas, so that he would not be injured by the dog's teeth. The "tramp" tried to fight off the dog, but the latter drove him back, where another one helped him to bring the "culprit" back to his master. Pascha was then told to fetch the "first aid" case, and he brought that, after some little search, to where the "policeman" was lying. Three of the dogs gave an exhibition of how to capture taxicab bandits. An automobile with three men dressed for the trial rolled on to the field, and the dogs were sent after them. Although the car was running at a fairly good pace they jumped up into it and seized the men. The event was held under the auspices of the German Sheepdog Club of America.

Vandalism in Fire Department.

New Providence, N. J.—Members of the fire department have discovered evidence that leads them to suspect that a systematic effort is being made to cripple their apparatus. Whether it is in the nature of animosity toward the department or preparation for an incendiary fire apparently is a matter of conjecture. The awakening of suspicion recalled a series of annoying circumstances, covering a month. At the beginning Chief Albert E. Jackson and another member of the company tried to take out the new combination hose

and chemical car and failed. An overhauling showed that old cells had been substituted for four new dry cell batteries that were put in the car the day before. Another failure a week later revealed that several engine wires had been disconnected. Later tools and a length of hose were missed. A few days ago it was found that the commutator wires had been disconnected. This was discovered by an electrician, called to diagnose the trouble. Just previously about five gallons of gasoline had been run out of the car over night. Not long ago the hammer with which fire alarms are sounded was stolen from its rack at Passaic street and Springfield avenue. None of the missing articles have been recovered. Officers of the department are trying to unearth a motive and to discover the vandals.

Sword Master Instructs Police.

New York City, N. Y.—For the purpose of carrying out Commissioner Waldo's idea that policemen must learn to get their prisoners to the station without the use of the club, it has been announced at headquarters that Captain Herman J. Koehler, for many years master of the sword and instructor of military gymnastics and physical culture at West Point, had offered his services for thirty days to bring the School of Recruits to its highest efficiency. Captain Koehler is a friend of Commissioner Waldo, and when he learned on the Commissioner's arrival from Europe that the police recruiting system would be extended here somewhat along the lines of those abroad, he volunteered to give the department the benefit of his experience. Captain Koehler appeared with class No. 1 at headquarters and assisted Captain Patrick Gargan, who is in command of this division of the school. Under the general supervision of Inspector Cornelius Cahalane the class of 125 men was divided into three separate squads for physical instruction. Under Captain Koehler, Captain Gargan and Inspector Cahalane the men spent one hour in instruction in the humane method of handling prisoners. This is an Americanized form of jiu jitsu and was adopted that the policemen might effectively handle their prisoners without maiming them. Following the jiu jitsu period the men spent an hour at the targets, learning how to handle a revolver, load and shoot it. This course will be followed every day from now on.

MOTOR VEHICLES

New Police Autos for Boston.

Boston, Mass.—Five new automobiles which will be used by district chiefs of the fire department, are at fire headquarters, on Bristol street, and for the next week or so will have thorough try-outs, on the roads of the city. In all probability the new machines will go to the chiefs who make the longest runs.

Auto for Forest Fire Protection.

San Joaquin, Cal.—The automobile has come into service as an important agent in fire protective work in this state. Its use here illustrates how wide its utility may be and how it could easily cover the bounds of a municipality. The United States forest service has recently purchased a special roadster to be used in patrolling the line of the San Joaquin and Eastern railroad, which traverses a large portion of the fire danger zone within the Sierra national forest south of the San Joaquin river. On this car the ordinary rubber tired wheels were removed and replaced by flanged iron wheels, so that the car is used exclusively on the railroad. The main idea is to follow up passenger trains from which cigars or cigarettes may have been thrown by careless tourists. The car is also used to transport fire fighters and supplies to points within a reasonable distance from the right of way of the railroad, the car easily negotiating the 5 per cent grades of this road. The car will carry from five to ten men. One man is custodian and driver of the car, and no one else is allowed to operate it. The car is operated with the permission of the railroad company and runs on orders of the train dispatchers.

GOVERNMENT AND FINANCE

Third Class Cities Protest Against Non-Partisanship.

Harrisburg, Pa.—Candidates for council in third class cities are being advised by political leaders and by county commissioners, as well as non-partisan petitions, in view of the decision of Judge Van Swearingen of Fayette county, who holds that the non-partisan ballot feature of the Clark commission government bill is unconstitutional, to protest against non-partisanship in elections to council and judgeships by having the non-partisan petitions officially filed with the state department, while the partisan petitions are held to cover an emergency. If the decision of Judge Van Swearingen of Fayette county is sustained by a higher court, it will not only directly affect all of the twenty-five third-class cities within the state, but is certain to result in confusion over the election of officers this year. This is the first decision that has been made in the state covering the non-partisan ballot law, although its constitutionality has been questioned, and a test case inaugurated in Philadelphia to cover the choice of judges. The recent legislature, in addition to incorporating a non-partisan ballot feature in the Clark bill enacted similar legislation as applying to all judges, and to the municipal officers of second-class cities. The test was brought by Connellsville to determine whether the Clark bill applied to Connellsville, which voted to become a city in 1910, obtained letters patent in 1911, but was prevented by a supreme court decision from electing officers until 1913. Because of the Clark bill's failure to make specific provision covering the Connellsville and Pottsville cases of cities obtaining letters patent prior to the enactment of the measure, but denied opportunity to perfect their title by electing officers the test was brought. Judge Van Swearingen held that the other provisions of the act apply.

City May Buy Its Own Bonds.

San Francisco, Cal.—A proposition to buy city bonds with the money remaining in the Geary street railway fund is being considered by the Finance Committee of the Supervisors. The Board's bond expert, H. A. Mason, has drawn up for the committee a resolution which, after stating that a surplus of \$200,000 remains in the bond fund for the construction of the Geary street road and that it is not needed for immediate expenditure, authorizes the City Treasurer to invest this sum in bonds of the city and county, which will mature prior to July 2, 1914, par value to be given for the bonds. If this plan is legal, the Finance Committee hopes to kill two birds with one stone by adopting it. The surplus in the Geary street road fund is lying idle in the city treasury, and if 5 per cent. bonds can be bought with it, the interest on the bonds can be placed to the credit of the municipal railway fund. Also bonds of the City Hall and other issues which have been offered for sale with no takers can be purchased with this dormant sum of money, thus supplying needed cash for hospital and City Hall work. The committee is uncertain as to the legality of this scheme of shifting funds, and has concluded to get the City Attorney's opinion on it before putting it before the Board of Supervisors. The intention of the Supervisors some time ago was to use the surplus in the Geary street road fund to build a railway on Van Ness avenue, but the proposed Van Ness avenue line having been included in the series of railways for which a bond issue of \$3,500,000 is asked, that intention has been abandoned.

Welfare Board Instituted.

Kansas City, Kan.—Public-spirited citizens of this city have asked the City Commission to establish a Public Welfare Board, which shall consist of four of the Commissioners, including the Mayor, and shall supervise all charitable, correctional and reformatory agencies, and all matters relating to recreation and the physical and moral welfare of the community. Four new officials are provided for in the ordinance presented. These are a superintendent of social welfare, a legal adviser who shall be judge of the small debtors' court, an Inspector who shall have charge of housing conditions, and a secretary. The originators of the

plan figure that other municipal departments that are now doing this welfare work piecemeal can be saved considerable money by the establishment of the new board, which would cost not more than \$5,000 a year at the outset.

Woman Mayor at Work.

Warrentown, Ore.—Miss Clara Munson, "the only woman mayor in the west," is making very good progress. So far she has fired the city attorney and a policeman and is applying their salaries to building sidewalks; she has permitted a saloon license to be granted over the protest of most of the women voters and has persuaded the city council, over which she presides, to take a common view of city problems.

\$839,000,000 in 15 Years for City Works.

New York City, N. Y.—The monthly report just issued for the Department of Finance by Controller Prendergast carries the figures of municipal receipt and expenditure back to Jan. 1, 1898, and shows that during the period from then to July 31, 1913, there has been a grand total of \$830,942,800 of corporate stock and assessment bonds issued to provide funds for public improvements, plus \$8,975,000 of corporate stock notes. Of this total \$177,372,568 was for water supply and \$95,285,416 was for rapid transit construction. In the purchase of sites for and in the construction of school houses, colleges, and libraries, \$113,610,131 was applied; \$87,110,584 was invested in docks and ferries, and in the construction of interborough and other bridges and in the acquirement of property for approaches thereto the outlay has aggregated \$77,269,103, with an additional \$15,590,582 expended, under the jurisdiction of the Bridge Department in the construction, etc., of the new Municipal building. The outlay which comes within the pale of city parks, places and driveways, has amounted to \$30,534,051. In the construction, paving, etc., of streets, roads and sewers, the total provision from bonds during the period under review amounted to \$156,553,233, of which \$34,902,133 was from assessment bonds, and \$121,651,100 from corporate stock and corporate stock notes. The outlays for improvements for the Police Department, the Fire Department, Department of Correction, Department of Health, Department of Charities, and for public buildings other than schools and libraries, have amounted to upward of \$76,000,000. The foregoing, together with \$23,000,000 of corporate stock issued to cover deficiencies in taxes of 1904 and prior years, constitutes the very large bulk of the funded debt which has been incurred by the City of New York since Jan. 1, 1898.

The Controller points out that the city's constitutional debt limit, as at the close of business, June 30, 1913, was \$62,281,209.70, of which \$15,000,000 is pre-empted for dock purposes, and \$29,739,170.55 by authorization for various municipal purposes to which the city is committed, at least, until such time as any of these authorizations may be rescinded. This debt margin or debt limit of the city, according to the report, is reached after charging, in addition to the constitutional funded debt, a further debt of \$168,919,860.85 for land liability, contract liability, and judgments and open market orders. This floating debt includes contract liability for rapid transit purposes of \$126,195,405.42, and additional contract liabilities of \$33,747,949.85 for various other city improvements, including repaving of streets, construction of public buildings, etc. The rapid transit contract liability, aggregating upward of \$126,000,000, cannot possibly be earned in its entirety, that is to say, the construction cannot be completed and payments all be made until within the next three or four years. This means that, viewed from the aspect of financing, the city could borrow upward of \$165,000,000 to carry out these contract and land liabilities without decreasing by one dollar the legal debt limit of \$62,281,209.70. The issuing of corporate stock for such purpose would merely mean the changing of the floating debt into a funded debt. During the first seven months of 1913 the total net cash receipts of the city amounted to \$352,018,855.42, and the total net cash payments amounted to \$335,360,545.67. For the corresponding period of 1912 the receipts were \$300,121,586.21, a difference of \$51,897,269.21, while the payments were \$288,684,370.95, a difference of \$46,676,174.72.

STREET CLEANING AND REFUSE DISPOSAL

Citizens to Pay Only Collection Costs.

Spokane, Wash.—Arthur E. Peterson, superintendent of the city crematory department, strongly advocates the proposed plan in which the city is to take care of the overhead expenses in the handling of the garbage, thereby making a reduction of about 40 per cent. in the charges for crematory service. The superintendent pleads for co-operation to make Spokane the cleanest city in America. Under the present plan of operation the department is self-sustaining, fees being collected for all work done. The benefits derived from the establishment of a crematory department are essentially municipal, therefore, says the superintendent, it is distinctly unfair to charge the patrons of the department with the upkeep costs in addition to the collection costs. A substitute plan has been submitted to the City Council which calls for the appropriation of not less than \$36,000 from the general taxes, to be expended for maintenance of crematory plant, barn and office. The amount asked for is approximately the same as the present overhead charges. Fees would be collected as at present, but patrons would pay only for the actual cost of collection of waste material. The idea of operation should be greatly broadened, thinks the superintendent, and the burden of maintaining the department would be taken from the shoulders of the 15 or 20 per cent. of the citizens who patronize the department at this time.

Trying a Sample Garbage Wagon.

Peoria, Ill.—The committee in charge of bids for furnishing garbage wagons for the city under the mayor's free collection plan recommends the trial of a sample wagon manufactured by E. G. Isch and Company. The firm agrees to let its bid stand until the city decides.

Orders Garbage Nuisance Abated.

Boston, Mass.—In reply to property owners of East Boston protesting against the use of the Boardman street marsh as a dumping ground for garbage by the Boston Development and Sanitary Company, Commissioner of Public Works Rourke has announced that he had notified the officials of the company that it must abate the nuisance before Sept. 15 if it wished to carry out its 10-year contract for the disposal of the city's garbage.

RAPID TRANSIT

Citizens Against Chamber of Commerce.

San Francisco, Cal.—Heedless of the warnings of the Chamber of Commerce and indifferent to its disapproval charges of unwarranted extravagance, the voters in the election authorized the city to issue \$3,500,000 in bonds for municipal street railroads. The vote was 50,000 for and 14,000 against. Strong union labor sentiment induced thousands to vote for the bonds as they saw in this a chance to give employment to many men. Also the argument was urged that the new street roads would furnish the desired transportation to the Panama-Pacific exposition.

Traction Company Must Lower Car Steps.

Wilkes-Barre, Pa.—The State Public Service Commission has recommended that the Wilkes-Barre Railway Company lower the steps and sideboards on some of the cars operated in this section and that the company erect platforms at the regular stops sufficient in height to permit patrons to enter or leave without unreasonable effort and also that the company provide step boxes wherever necessary. The recommendation was made as the result of complaints filed with the commission by patrons who have found the high steps on some of the cars inconvenient. It was stated that the high steps and sideboards are all on the Harvey's Lake line of the road. These, the officials of the company claim, are necessary because of the high wheels on the cars which must be so because of the mountain climb to that resort. The company has step boxes which are used. The stations will be raised if it is proved that this will help the situation any. It is believed that the cars used on all of the other lines have steps that are not found too high except for those young women who persist in wearing tight skirts, for which the company does not hold itself responsible.

MISCELLANEOUS

City-Planning for all Third Class Cities in State.

Harrisburg, Pa.—A city planning commission that will have jurisdiction over the location of new streets, parks, parkways, civic centers and the like, must be created in all third class cities in the state under the provisions of a bill signed recently by Governor Tener. The city planning bill was introduced by Representative Mitchell, of Erie, and applies only to third class cities. By ordinance the powers given this commission may be conferred upon the city park commission. The commission is to be composed of five members whose terms will be one, two, three, four and five years, respectively, so far as the first commission is concerned, and five years each thereafter. The mayor and council are to appoint the members, who are to serve without pay. The commission is empowered to pass upon all ordinances relating to the location of public buildings, civic centers, or streets, or the widening, extension, or the parking of streets, parks, parkway, boulevards, playgrounds and the like. The commission is given the same veto power as the mayor. Section six of the act provides that

"It shall be proper for said cities to provide by ordinance for exercise of all rights and powers herein conferred upon the city planning commission by a park commission or kindred municipal bureau or commission authorized under existing laws. No person holding office under the government of any of said cities except the mayor, members of council or commissioners shall be ineligible to serve as a member of a city planning commission."

The bill gives the commission jurisdiction three miles outside the corporate limits of the city so that territory adjoining, which eventually will be taken into the city, may be planned along comprehensive lines. This will prevent new streets in outlying districts being laid out on a plan which will not conform with that of the city should the city's limits be extended. Section five provides:

"All plans, plots or re-plots of lands laid out in building lots, and the streets, alleys or other portions of the same intended to be dedicated to public use, or for the use of purchasers or owners of lots fronting thereon or adjacent thereto, and located within the city limits or for a distance of three miles outside thereof, shall be submitted to the city planning commission and approved by it before it shall be recorded. And it shall be unlawful to receive or record such plan in any public office unless the same shall bear thereon by an endorsement or otherwise the approval of the city planning commission. The disapproval of any such plan by the city planning commission shall be deemed a refusal of the proposed dedication thereon. No sewer, water or gas mains or pipes or other improvement shall be voted or made within the area under the jurisdiction of said commission for the use of any such persons, purchasers or owners, nor shall any permit for connection with or otherwise of any such improvement, existing or for any other reason made, be given to any such purchasers or owners until such plan is so approved."

Work Begun on Municipal Dock.

Los Angeles, Cal.—The work of pouring the concrete for a section of the bed of municipal dock No. 1 at Los Angeles harbor has been begun. The bed is to consist of six inches of concrete, covered by two inches of asphalt. Under the terms of the contract this wharf is to be completed April 1, 1914. The dock will be 2520 feet long and forty feet wide, and the section to be covered now comprises an area of about twenty-six by forty feet.

To Regulate Street Orators.

Minot, N. D.—Soap-box orators must hereafter secure police permits in this city if an ordinance, passed by the city commission becomes law. The ordinance grows out of recent disturbances in Minot, and proposes strict censorship over street corner orators, such as were responsible for the two-day rioting here. The city commission will meet again at the end of the period that must intervene between the first and final passage of such an ordinance. There is no opposition to the ordinance now, Dewey Dorman, one of the commissioners who doubtless would oppose the measure, being in jail.

City Takes Over Piers.

Philadelphia, Pa.—Title to two piers, Nos. 41 and 44, South Wharf, has been transferred from the Pennsylvania Railroad to the city. The consideration which the railroad company received for the piers was \$360,000. Director Norris, or the Department of Wharves, Docks and Ferries, said that the work of removing the present pier structures will begin immediately. As soon as it is finished the construction work on the two new municipal piers will be started.

Pressmen's Strike—No Pay for City Employees.

San Francisco, Cal.—On account of the press feeders' strike the city government is unable to obtain blank pay rolls and pay checks with the union label, since the printing houses which have contracts with the city are involved in the strike, and the right to use the union label has been withdrawn from them. A resolution adopted by the Board of Supervisors fourteen years ago requires that all city printing shall bear the union label. Bookkeeper Leavy of the Board of Public Works says that he has no blank pay roll sheets left, and has to rule and mark by hand enough to supply immediate needs. The Works Board's pay roll lists for July were delayed on this account, he states. There are 1,500 employees in this department, he says, and many blank pay rolls are wanted. Auditor Boyle states that his stock of pay checks has been exhausted. Under the new pay check system the Auditor must issue pay checks before the employees of the Fire Department, Public Works Department and other departments can get their money from the city treasury. The Supplies Committee of the Supervisors has requested Ferdinand Barbrack, secretary of the Allied Printing Trades Council, to ask the council to permit the use of the union label, so that the immediate needs of the city may be met.

City Ordinance for Race Segregation.

Hyattsville, Md.—Dr. Guy W. Latimer, councilman from the first ward, is sponsor for a proposition to enact a race segregation ordinance in Hyattsville. Instructions have been issued to Corporation Counsel Vincent A. Sheehy to prepare for adoption by the mayor and common council an ordinance providing for such segregation. Councilman Latimer's action is said to have been inspired by the threat of certain property owners in Hyattsville to rent their holdings to colored tenants in case the municipality imposed burdens upon their property in the shape of special assessments. The ordinance proposed by Councilman Latimer provides:

That it shall be unlawful for any white person to occupy as a residence or to establish and maintain as a place of public assembly any house upon any street or alley between two adjacent streets in which a greater number of houses are occupied as residences by colored people than are occupied as residences by white people.

That it shall be unlawful for any colored person to occupy as a residence or to establish and maintain as a place of public assembly any house upon any street or alley between two adjacent streets on which a greater number of houses are occupied as residences by white people than are occupied as residences by colored people.

That no person shall construct or locate on any block or square on which there is at that time no residence any house or other building intended to be used as a residence without declaring in his application for a permit to build whether the house or building so to be constructed is designed to be occupied by white or colored people, and the inspector of buildings of the city shall not issue any permit in such cases unless the application complies with the provisions of this section.

That nothing in this ordinance shall affect the location of residences made previous to the approval of this ordinance, and nothing herein shall be so construed as to prevent the occupation of residences by white or colored servants or employees on the square or block on which they are so employed.

Every person, either by himself or through his agent, violating, or any agent for another violating, any one or more of the provisions of this ordinance shall be liable to a fine of not less than \$100 nor more than \$200, recoverable before the police justice of the city of Hyattsville, and, in the discretion of the police justice, such person may, in addition thereto, be confined in the city jail not less than thirty nor more than ninety days.

Fort Wayne Solves Grade-Crossing Problem.

Fort Wayne, Ind.—Fort Wayne is just completing the first half of the elevation of the Wabash and Pennsylvania tracks through the city, the work having been done at a remarkably low cost to the city, and with strikingly good results. So far the work has cost \$750,000, more than \$600,000 of which the roads will pay for new stations here, and the city of Fort Wayne has so far paid but \$54,520 toward the cost. The total cost of the track elevation work will not exceed \$100,000. Owing to the elevation of the tracks it has been possible to connect the two ends of Harrison street, formerly divided by the railroads, by means of a subway under the tracks. The opening of this subway has boomed property values on Harrison street alone to the extent of \$250,000. Before track elevation was commenced the Wabash and Pennsylvania railroads formed a Chinese wall between the southern and northern sections of the

city. With the dangerous grade crossings eliminated, the southside—the city's great residence section—has boomed wonderfully. It is conservatively estimated that the increase in property values on the south side, due entirely to track elevation, has been at least \$2,000,000. At least a score of big new additions in that part of town have been readily sold since track elevation started.

Municipalities and the Eight-Hour Law.

Denton, Tex.—That the eight-hour law does not apply to municipally-owned water and light plants is the ruling of the Attorney General's office. Two shifts of twelve hours each are employed in the city's water, light and power plant here.

St. Paul, Minn.—As a result of the decision of the United States Attorney General that the eight-hour law is not applicable, work will be commenced immediately on the Minnesota Valley Scenic highway, St. Paul to Mankato. The municipalities may therefore allow the contractors to work their men ten hours a day.

Public Market for Racine.

Racine, Wis.—As soon as the Lakeshore road improvement project comes to a successful termination, Racine will receive a public market. The new proposed market would be the direct outcome of spending \$48,000 on improvements to the Lakeshore road, since with better transportation facilities the farmers would be enabled to get their produce to market by a more direct and quicker way. The contemplated market is being urged by Secretary W. H. Reed of the Commercial club, who sees great possibilities for his plan. An agitation for the market will be made as soon as the work of securing funds for the road improvement is completed, and a measure for such a market will be prepared and submitted to the common council for action.

Want a Municipal Bank.

Columbus, O.—A municipal bank, owned and operated by the city under the national banking laws, to be used in loaning money at cost to citizens to reconstruct the homes of West Siders who lost them in the recent flood, to refund the loans already contracted and to eliminate the "interest graft" on municipal bonds is one of the new planks in the platform of the Socialist party to be advocated in the municipal campaign this fall. A municipal ice and cold storage plant to be operated in connection with the city light plant, and a municipal hospital are other features of the Socialist platform. The party reiterates its support of the proposition to extend the municipal light plant for commercial purposes. Free textbooks and other equipment in all grades of the public schools are measures which the candidates for board of education will advocate, and also free lunches. They would also remove the ban on women teachers marrying and would not make marriage a bar to partment in this city which will add considerably to the unique exhibit, the first of its kind ever attempted.

Smoke Prevention Exhibition.

Pittsburgh, Pa.—The Smoke and Dust Abatement League of Pittsburgh has an interesting exhibit at the big exposition here this year, the display being very appropriate, as the International Association for the Prevention of Smoke will meet in this city September 9 to 12. Several charts have been made by the United States Weather Bureau department in this city and will add considerably to the unique exhibit, which is the first of its kind ever attempted.

Pittsburgh Invites 100,000 Visitors.

Pittsburgh, Pa.—Following a meeting at which the Pittsburgh Industrial Development Commission and several other civic organizations were represented, as well as hundreds of merchants, it was decided to send out 100,000 invitations to outside merchants to come to this city during the week of September 21. Among the inducements to bring the out of towners here during that week will be refunding of railroad fares, tickets to the ball games, cards to the Pittsburgh Athletic Association's club house and other events in connection with the celebration of the one hundred and twenty-fifth anniversary of Allegheny County's founding.

LEGAL NEWS

A Summary and Notes of Recent Decisions— Rulings of Interest to Municipalities

Possession of Streets—Trespass by City.

Waller v. Village of River Forest.—Injunction is the proper remedy against a city seeking to take possession of a street to which it has no right.—Supreme Court of Illinois, 102 N. E. R., 290.

Defective Streets.—Negligence.

Lalor v. City of New York.—A city was not negligent in permitting a circular hole in the middle of a street about as large as a barrel head, which was four inches deep at the deepest part and extended from the edge of the street crossing.—Court of Appeals of New York, 102 N. E. R., 558.

Street Improvements—Statutes.

Town of Jasper v. Cassidy.—Under Laws 1909, relating to the improvement of public streets, a town board has no power to order a street to be graded without otherwise improving it, and to assess the costs against the abutting property.—Appellate Court of Indiana, 102 N. E. R., 278.

Supply of Gas—Rates to Consumers.

Cloverdale Homes v. Town of Cloverdale et al.—A public service corporation producing and supplying gas cannot furnish gas to one of the residents of a town and not furnish gas to all other residents occupying the same class, since all persons of the same class are entitled to gas upon the same terms.—Supreme Court of Alabama, 62 S. R., 713.

Removal of Dead Animals—Ordinances.

Schwarz Bros. Co. et al v. Board of Health of Jersey City.—An ordinance by a board of health which delegates to the health officer the power to determine when and under what conditions a permit for the removal of dead animals shall be granted is ultra vires as a delegation of power which the board should exercise.—Court of Errors and appeals of New Jersey, 87 A. R., 463.

Prohibited Contracts—Liability of City.

Dallas v. Sea Isle City.—Where, as by statute it is made a misdemeanor for any member of city council to be directly or indirectly concerned in any agreement or contract for any improvement at the public expense, or to be directly or indirectly interested in furnishing any foods, supplies, or property of any kind to the city, the city is not liable, even when by the execution of the prohibited contract benefit has accrued to it.—Court of Errors and Appeals of New Jersey, 87 A. R., 467.

Bond Election—Publication of Notice.

Graham et al v. City of Lebanon.—The publication of notice of a municipal bond election under Act of April 20, 1874, in three daily newspapers, not continually in any one, but from time to time in each during the required period in such a manner that 12 days elapsed during which no publication of the notice appeared, did not satisfy the requirement of such statute that "30 days' notice shall be given by weekly advertisement."—Supreme Court of Pennsylvania, 87 A. R., 567.

Railroads—Smoke—Ordinances.

Pennsylvania R. R. Co. v. Mayor and Aldermen of Jersey City.—Where the Legislature has seen fit to confer upon railroad companies the right to consume fuel and emit the smoke arising therefrom, in order to operate their railroads, and in so doing to be immune from liability for damage to adjacent property, provided such damage results, notwithstanding proper care is used by the company in operating its railroad, a municipality cannot, without at least express power delegated to it, make it unlawful to permit the emission of dense smoke from the smokestacks of its locomotives, unless the escape of such smoke results from negligence or want of due care.—Court of Errors and Appeals of New Jersey, 87 A. R., 465.

Contract for Water Supply—Term of Years.

Drew v. Village of White Plains.—The general village law has no application to the Water Commissioners of a village appointed under a special statute, and hence their contract for the purchase of water was not void because made for more than five years. New York Supreme Court, 142 N. Y. S., 577.

Railroad Right of Way—Change of Grade.

In re Grade Crossing Com'rs of City of Buffalo.—A railroad company has a right to elevate or depress its tracks without making compensation to abutting owners, whether it obtained its right of way by deed or by condemnation; the amount paid for the right of way being deemed to include compensation for such changes.—Court of Appeals of New York, 102 N. E. R., 552.

Temporary Use of Street by Abutting Owner.

Dougherty v. City of St. Louis et al.—Though it may be for a short time only, the use of a street is permanent and unlawful (and not within the rule that an abutting owner may take a reasonable temporary use of a street, causing an obstruction) where such owners engaged in using the abutting property as a storage place for old building material, and, because of their storage room being full, use the street as a storage room, proposing to do so till the congested condition of their yard is relieved.—Supreme Court of Missouri, 158 S. W. R., 325.

Care of Sidewalks—Jury Trial.

Gibbs v. Village.—A cause of action for damages brought against a village for negligence in the case of its sidewalks, by reason of which it is claimed plaintiff was injured, presents a jury issue if there is some evidence tending to prove every essential fact necessary to entitle plaintiff to recover; and an order of the trial judge at the close of the plaintiff's case directing a verdict in favor of defendant over the objection of such plaintiff is a denial and violation of the right of trial by jury, and therefore reversible error.—Supreme Court of Ohio, 102 N. E. R., 299.

Village Treasurer—Liability on Bond.

Trustees of Village of Bath v. McBride et al.—Under Village Law, requiring the treasurer and such other officers as may be required by the board of trustees before entering upon their duties to execute to the village and file with the clerk an official undertaking to be approved by the board of trustees, and providing that the board of trustees may at any time require any such officer to file a new official undertaking for such sum and with such sureties as the board shall approve, where, after the approval of a village treasurer's bond, a new additional bond required by the board of trustees was given, accepted, and approved by formal resolution, it was valid, even though the board's action in requiring the new bond was informal, and without any evidential record in its minute book.—New York Supreme Court, 142 N. Y., 1014.

Local Improvements—Rate of Wages.

Jahn Contracting Co. v. City of Seattle et al.—Rem. & Bal. Code authorizes cities to build a street railway system as a public utility, and requires a ratification thereof at an election. On or about March 7, 1911, the city of Seattle voted to construct a street railway system, and on January 12, 1912, plaintiff's bid was accepted, and though plaintiff was thereafter ready to execute such contract it was not formally executed until June 8, 1912, before which time the city adopted an amendment providing that minimum wages on local improvement work should be \$2.75 per day. Held, in an action to enjoin a threatened forfeiture of the contract because he was paying only \$2 per day, that the work was a "public utility," and not a "local improvement work" which is an improvement which, by reason of its being confined to a locality, enhances the value of adjacent property as distinguished from public benefits and the cost of which may be assessed on the property specially benefited, and hence that the contract was not controlled by the amendment.—Supreme Court of Washington, 133 F. R., 458.

Ownership of Streets—Taxation.

Graham v. City of Detroit.—A municipality has only an easement in streets used for public travel, and in its control of these highways acts for the state, having no right of possession or use other than the public generally; therefore these easements belong to the state, and are not subject to state taxation. Supreme Court of Michigan, 140 N. W. R., 949.

Public Improvements—Rights of Person Assessed.

In re Leary Ave. in City of Seattle.—While owners of property liable to be assessed for a contemplated improvement may have a natural right to peaceably assemble and protest against the improvement, they have no absolute right to have their protest granted or to maintain an action or proceeding in the courts if the protest is not granted. Supreme Court of Washington, 131 P. R., 225.

Sunday Closing Ordinance—Statutes.

City of St. Louis v. Bernard.—Rev. St. 1909, prohibiting the sale of all goods and merchandise on Sunday, except "drugs, medicines, provisions or other article of immediate necessity," does not conflict with an ordinance prohibiting the keeping open of a grocery store and selling goods therein after 9 o'clock in the morning on Sunday; the statute not expressly authorizing stores to be kept open on Sunday, but leaving that open for legislation by a city. Supreme Court of Missouri, 155 S. W. R., 394.

Icy Sidewalk—Constructive Notice.

Adelson v. City of New York.—In an action by a pedestrian who fell on the ice on the walk in front of a vacant lot, evidence held insufficient to charge the municipality with constructive notice that the snow which had fallen, and the ice which had formed, constituted a dangerous obstruction which had existed sufficiently long to have enabled the municipality, in the exercise of reasonable care, to remove it. New York Supreme Court, 141 N. Y. S., 96.

License Tax—Milk Dealers.

Weyman v. City of Newport et al.—A municipal ordinance imposing a license tax upon each and every person engaged in vending milk when carried on with a wagon and when carried on in a depot is not invalid in taxing some vendors of milk or in exempting others, for the word "depot" must be construed as any place where milk is sold, whether it be sold exclusively or in connection with other articles of food, the term being defined as a place for the deposit of goods, a warehouse or a storehouse. Court of Appeals of Kentucky, 156 S. W. R., 109.

Defective Streets—Injuries—Nature of Action.

Bonny v. City of New York.—One injured by a subsidence of a sidewalk while lawfully walking along a street has a different cause of action from that of a person injured on private land adjacent to the street, resulting from such land giving way in consequence of the acts of the city incidental to the improving of the streets, since in one case the city is bound to use due care to keep the street in a reasonably safe condition for use, while in the other it is only liable for the negligent way in which the work was done or left. New York Supreme Court, 141 N. Y. S. 6.

Issuance of Bonds—Conditions Precedent.

City of Inglewood v. Kew, City Clerk.—Under section 2 of the Bond Act, requiring that an ordinance calling an election for the determination of the question of the issuance of bonds by a municipality shall recite the estimated cost of proposed public improvements, an election, held under an ordinance which showed that no estimate had been made for certain improvements and that the amount of the bonds necessary to be issued could not be determined because the amount might vary owing to remonstrances by property owners, will not authorize the issuance of bonds, for while it will be presumed that an estimate had been previously made, if the ordinance merely contained a state-

ment as to the estimated cost in relation to the improvement, yet where the ordinance as here shows that none has been made, no valid election can be had because of the non-observance of that condition precedent. District Court of Appeals of California 132 P. R., 780.

Taking Property of Water Company—Process of Law.

City and County of Denver, Col., et al, Petitioners, v. New York Trust Company et al.—Subjecting a water company whose franchise has expired to the alternative of accepting an inadequate price for its plant or of having its value ruinously impaired by the construction and operation of a municipal plant does not take property without due process of law, contrary to U. S. Const., 14th Amend., where the municipality is not only under no legal obligation either to renew the franchise or to purchase the plant, but is free to construct and operate its own plant. 33 S. C. R., 657.

Property Deeded to City—Unauthorized Acts of Officers.

Moss et al. v. City of Pittsburgh.—The city of Pittsburgh, which, under the law of Pennsylvania governing cities of the second class, can lease or sell and convey real estate only by action of the Mayor and Councils, cannot be deprived of the title to valuable property donated to it for market purposes, on condition that title should revert if it was used for any other purpose, by the unauthorized action of administrative officers in permitting a part of the property to be used in certain seasons as a playground, and in paying a part of the expense of maintaining such playground from general appropriations made by councils for such purposes. United States Circuit Court, 203 F. R., 247.

Street Railroads—Repair of Streets.

Town of Westfield v. Public Service Ry. Co.—An ordinance granting to a street railway company the right to lay its tracks in the streets of a municipality contained two sections; one requiring the railway company to pave between its tracks on all streets, and the other dealt with the repairs required to be made by the company, under which the company was bound to repair not only between the tracks, but 18 inches outside. This section contained a clause which required the company to pave certain streets from curb to curb. Held, that the obligation thus cast upon the company did not require it to keep in repair the streets from curb to curb, but only to pave from curb to curb, and did not relieve the company from keeping in repair, even on the streets it was bound to pave from curb to curb, so much of the street as lay between the tracks and 18 inches on each side thereof. Supreme Court of New Jersey, 87 A. R. 82.

Officers—Secret Dealings—Liability.

City of Minneapolis v. Canterbury.—Where a city officer, while acting in an advisory capacity to a committee of the council charged with the selection of a site for a building to be used in connection with his department, purchased certain land with the view of selling it to the city for such purpose, and conveyed it to a third person, who, pursuant to the plan, sold it to the city at an advanced price, the officer became a trustee for and liable to the city to the extent of the difference between the price paid by him and that paid by the city.—Supreme Court of Minnesota, 142 N. W. R., 812.

Ordinances—Invalidity—Criminal Offense.

Ezell v. City of Atlanta.—The Supreme Court, in response to questions certified to it by the Court of Appeals, having held that the ordinance under which the petitioner for certiorari was convicted, in so far as it relates to interstate shipments of liquors therein specified, is void and unenforceable; and since it was admitted on the trial before the city recorder that the report demanded of the accused was one relating to interstate shipments of liquors, the conviction of the accused by the recorder was illegal, and the judge of the superior court erred in refusing to sanction the petition for certiorari.—Court of Appeals of Georgia, 78 S. E. R. 850.

NEWS OF THE SOCIETIES

Calendar of Meetings.

September 1-8.

INTERNATIONAL ASSOCIATION OF FIRE ENGINEERS. Forty-first Annual Convention, Grand Central Palace, New York City. James McFall, Secretary, Roanoke, Va.

September 9-13.

AMERICAN PUBLIC HEALTH ASSOCIATION.—Annual Convention, Colorado Springs, Col.—S. M. Gunn, secretary, 755 Boylston street, Boston, Mass.

September 10-12.

NEW ENGLAND WATER WORKS ASSOCIATION.—Annual Convention, Philadelphia, Pa. Willard Kent, Secretary, Narragansett Pier, R. I.

September 17-18.

NATIONAL PAVING BRICK MANUFACTURERS' ASSOCIATION.—Tenth annual meeting and paving conference. Hotel Statler, Cleveland, O. Will P. Blair, Secretary, 824 Locomotive Engineers' Building, Cleveland, O.

September 22-26.

ILLUMINATING ENGINEERING SOCIETY.—Annual Convention, Hotel Schenley, Pittsburgh, Pa. Jacob Israel, Secretary, 29 West 39th St., New York City.

September 29-October 4.

AMERICAN HIGHWAY ASSOCIATION.—Annual Convention, Detroit, Mich. J. E. Pennybaker, Secretary, Washington, D. C.

October 1-2.

LEAGUE OF PACIFIC NORTHWEST MUNICIPALITIES.—Second Annual Conference, Rose City, Wash. Charles G. Haines, Secretary, Walla, Walla, Wash.

October 7-10.

AMERICAN SOCIETY OF MUNICIPAL IMPROVEMENTS.—Twentieth Annual Meeting, Wilmington, Del.—A. Prescott Folwell, Secretary, 50 Union Square, New York City.

International Association of Fire Engineers.

Twelve hundred fire chiefs met at the Grand Central Palace, New York City, September 1 in the forty-first annual convention of the association, the largest meeting ever held. In a way, it is believed the convention marks the ending of an era, the passing of the horses which for decades have added the picturesque quality to every fire. Every piece of apparatus shown on the floor of the convention hall was self-propelled.

The convention was called to order by H. F. Magee, chief of the fire department of Dallas, Texas, who introduced John Kenlon, chief of the New York department. The chief then presented Joseph Johnson, the fire commissioner of New York, saying that Mr. Johnson undoubtedly was the best fire commissioner under whom he had ever worked. The commissioner announced that he had come as the representative of Mayor Gaynor, who was unable to be present. The reply was made by Charles H. Henderson, chief of the department of Bradford, Pa. Chief Kenlon then moved that honorary membership be conferred upon three foreign chiefs who had come to attend the convention. They were presented in turn. They were J. Meier, chief of the Amsterdam, Holland service; Arthur R. Dyer, assistant chief of the London fire brigade; Major E. T. Waller, Alexandria, Egypt.

Two of the papers scheduled in the program were presented in the afternoon. Chief A. V. Bennett, of Birmingham, Ala., in his "Motor Apparatus," pointed out that the enthusiasm to reach a fire at the earliest possible moment was responsible for a tendency

to recklessness. However, he maintained that enthusiasm was necessary in fire fighting, but firemen should be carefully trained for these machines. Motor apparatus, he predicted, would inevitably supplant the horse-drawn apparatus. "We have motor engines in service the cost of whose operation has averaged less than \$3 a month since they were installed three years ago," said the Alabaman. The second and last paper of the afternoon "British Motor Fire Engines," was read by Arthur R. Dyer, divisional chief of the London fire brigade. He said that the cost of motor apparatus, when it was first introduced into the London fire department, was greatly in excess of the horse-drawn vehicles. After trial for a number of years, however, he explained that it has been found to be more economical.

Ultimately the London fire department, he said, would be completely "motorized."

Incendiarism was the chief topic of the second day's session. Chief Kenlon, New York, said that night after night he had been called out to fires where the clear white flames bursting from many or all windows indicated the use of alcohol. Even the newly recruited fireman would exclaim "a touch-off," he said. Fire Commissioner Johnson in an extended and detailed paper dealing with the same subject, expressed the opinion that at least one quarter of the fires in New York City were of incendiary origin. He explained the work of the fire prevention bureau, and gave records of inspections and arrests. He blamed the insurance companies in fact for issuing policies of greater value than the property covered.

Frank Loch, of the Atlas Insurance Company, disagreed with the commissioner to some extent. He said inspections might inspire the firebug with greater confidence of purpose, because after having committed an incendiary act he could claim that the place had been inspected.

Denis F. Cash, Director of Safety of Cincinnati, told the visiting Chiefs what his city had accomplished in the way of inspection of buildings and contents by uniformed members of the fire department. This work, introduced in Cincinnati last year, he said, had become permanent. Fires had been reduced and an educational campaign begun. The city, he explained, was divided into districts, and each company assigned to a district, taking it block by block for inspection. The new system was inaugurated without any extra expenses, and without decreasing the efficiency of the fire-fighting force.

A paper by Chief John C. Egner of Kansas City, on the two-platoon system was read. In Kansas City, Chief Egner said, the men worked on twelve-hour shifts. The unmarried men were required to sleep at the company

houses, while the married men were permitted to sleep at home, subject to call on second alarm fires, either by telephone or messenger. Chief Egner did not commend the two-platoon system unduly, because he said he had found some of his men trying to do a little outside work to increase their earnings.

Chief William Guerin, of the Bureau of Fire Prevention, New York City, told the convention that fire prevention all over the world had received its impetus not from the builders, architects, or engineers, but from "the men who had to take their battalions into danger whenever there was a fire." He said that it was the fire fighters who had forced fire prevention on the world.

Deputy State Fire Marshal Eugene D. Stock, of Albany, said that the State Fire Marshal was strongly in favor of motorizing local and municipal fire departments by the adoption of motor traction throughout the state. He also recommended uniform State Fire Marshal laws.

Other speakers were F. M. Griswold, Inspector for the Home Insurance Company, and Charles S. Demarest, Chief of Construction of the New York Fire Department. Mr. Demarest said it was unwise to run motor fire apparatus at a speed greater than 25 miles an hour because of the liability to accident due to the heavy weight of the apparatus. As yet he considered the steam fire engine, motor propelled, more dependable than the new triple combination motor fire engines. The latter, he explained, were more likely to be put out of commission if flooded with water.

The exhibition consisted of motor drawn apparatus arranged on the main floor of the hall; of these there were about thirty pieces present on the first day and more to come. In the balconies were the exhibits of smaller equipment, including rubber hose, automobile tires, fire bells, alarm systems, hand extinguishers, hose goods and many other things used in the fire service.

The exhibits of the larger apparatus as shown on the first day were as follows:

International Motor Company.

Mack hose car.

Mack combination chemical.

Mack tractor, with ladder truck.

Mack high pressure hose car.

Pope Mfg. Co.

Pope-Hartford combination chemical and hose.

Seagrave Co.

Pumping engine with turbine pump.

City service ladder truck.

Aerial ladder.

Combination chemical and hose wagon.

American La France Co.

Aerial ladder.

City service ladder truck.

Steamer with tractor.

Combination pumping engine, chemical and hose wagon; rotary pump.

Combination pumping engine and hose car, rotary pump.

Combination chemical and hose car.

James Boyd & Brother.

Combination chemical and hose car.
Kanawha air-pressure system.

Nott Fire Engine Company.

Pumping engine and hose car with rotary pump of new design.

American-British Mfg. Co.

Steam fire engine (Amoskeag) with Hoadley gasoline electric two-wheeled tractor.

Ahrens-Fox Co.

Pumping engine using piston pump.
Ahrens-Fox steam fire engine with Christie front drive tractor.

Front Drive Motor Co.

Christie front drive tractor, attached to Amoskeag steam fire engine.

Knox Automobile Co.

Martin, three wheeled tractor, attached to various pieces of apparatus.

Combination chemical and hose wagon.

Pumping engine and hose car; rotary pump.

Society of Pennsylvania Mayors.

To establish closer relations among chief executives of third-class cities in the state an organization to be known as the Society of Pennsylvania Mayors was perfected August 27 by third-class city mayors attending the convention in Erie, Pa.

While the purpose of the organization is largely for sociability, the members believe that by banding together many matters of business may be adjusted in connection with the adoption of the new government.

Officers of the society were elected as follows:

President, Mayor George Ward, of Chester; vice-president, Mayor Samuel Stables, of York; secretary Mayor John H. Royal, of Harrisburg; treasurer, Mayor D. W. Nevin, of Easton; chairman of committee on organization and business affairs, Mayor William J. Stern, Erie. The date of the first assemble of the new organization has not been decided.

American Road Congress.

Governor Ferris, of Michigan, is personally urging the governors of each state to name delegates to the Third American Road Congress, which will be in session at Detroit during the week of September 29. Thirty governors have already named their delegates, and it is expected that a number of governors will be present in person at the Congress. Governor McCreary, of Kentucky, which state has recently established a state highway department, expects to attend the meeting. It now seems assured that the heads of every state highway department from Maine to California will personally take part in the big meeting, and as a result of this unusual interest, the demand for exhibit space by manufacturers has been unprecedented. All available space has been reserved by nearly one hundred manufacturers, who will display their products, including every kind of road making machinery, engineering instruments, concrete ma-

chinery, bridges, culverts, concrete, wood block, asphalt, tar, and oil preparations.

Important progress is expected to be made in three great questions affecting the road movement. The Congress will endeavor to agree upon a policy of national aid which, with the united support of the good roads workers throughout the country, will be submitted to the Congress of the United States. Steps will be taken at the session on State Road Legislation, to be held under the auspices of the American Bar Association, to the formation, through official action by the several states, of an inter-state commission to codify and simplify existing state road laws. At present, most of the states are laboring under a weight of antiquated and contradictory road laws, and it is plain that the commission will recommend simple, clearcut, and uniform road laws as a substitute for the mass of useless existing road legislation. Maintenance of roads will be discussed from every standpoint during the sessions held by the American Highway Association, the parent organization in the Congress, and the engineers will endeavor to determine among themselves upon the steps which should be taken in the several states to insure adequate maintenance.

New England Water Works Association.

The following program has been issued for the thirty-second annual convention, Philadelphia, Pa., September 10-12. The headquarters will be at Hotel Walton. The committee of arrangements are: Carleton E. Davis, chairman, chief engineer Bureau of Water, Philadelphia; J. W. Ledoux, chief engineer American Pipe and Construction Co., Philadelphia, Pa.; John C. Trautwine, Jr., consulting engineer, Philadelphia, Pa.

PROGRAMME.

WEDNESDAY, SEPTEMBER 10.

Morning Session: 10.30 o'clock. Address of welcome by his Honor, Rudolph Blankenburg, Mayor of the city of Philadelphia. Business meeting.

Papers: "Notes on Reduction of Waste of Water in New York City," by William W. Brush, Deputy Chief Engineer, Department of Water Supply, Gas and Electricity, New York City.

"Effect of the Condition of Meters on Revenue," by A. W. Cuddeback, Engineer and Superintendent, Passaic Water Company, Paterson, N. J.

Automobile ride for the ladies through Fairmount Park and suburbs, in afternoon.

Afternoon Session: 2.00 o'clock. Papers:

"The Additional Water Supply for the City of Pittsfield, Mass.," illustrated, by Hiram A. Miller, Consulting Engineer, Boston, Mass.

"Discussion of the Report of the Committee on Water Consumption and Statistics Relating Thereto," which was presented at the March meeting of the

Association, Leonard Metcalf, Chairman.

Report of Committee on "Low Yields of Catchment Areas in New England, and at Their Discretion, Outside of New England." Committee, Frederick P. Stearns, Chairman, Arthur T. Safford, Richard A. Hale, Harold K. Barrows, C. E. Chandler, X. H. Good-nough, James L. Tighe, Leonard Metcalf, Elbert E. Lochbridge, G. A. Carpenter.

Evening session: 8 o'clock.

"Outline of the Water Supply of Philadelphia," by Carleton E. Davis, Chief Engineer of the Bureau of Water, Philadelphia, Pa.

"Torresdale Filter Plant Methods and Results from 1907 to Date," illustrated, by Francis D. West, Chemist in Charge, Torresdale Laboratory.

"Mortality Rates of Philadelphia in Relation to the Water Supply," by John A. Vogelsson, Chief of Bureau of Health, Philadelphia, Pa.

THURSDAY, SEPTEMBER 11.

Morning Session: 9 o'clock. "Methods of Locating Leaks in Water Mains," by F. J. Hoxie, Engineer and Special Inspector, Associated Factory Mutual Fire Ins. Cos., Boston, Mass.

"Loss of Head in Bends," by Weston E. Fuller, Consulting Engineer, New York City.

Discussion of paper by George C. Whipple on "Decarbonation of Water," which was presented at the March meeting of the association.

Progress reports from the following Committees:

"Standard Specifications for Cast Iron Pipe," F. A. McInnes, Chairman.

"Standard Specifications for Hydrants," H. A. Lacount, Chairman.

"Committee to look after and keep track of legislation and other matters pertaining to the conservation, development and utilization of the natural resources of the country," M. N. Baker, Chairman.

No afternoon session. For those wishing to take it, an excursion has been arranged by sight-seeing automobiles through portions of Fairmount Park, including stops at Queen Lane Pumping Station, Queen Lane Filters, and one of the High Pressure Fire Stations. The route of this trip will include other interesting parts of the city.

Evening session: Paper, "The City Tunnel and Conduits of the Catskill Aqueduct," illustrated, by Walter E. Spear, Department Engineer, Board of Water Supply, New York City.

FRIDAY, SEPTEMBER 12.

Excursion on Delaware River to Torresdale Filtration Plant and Lardner's Point Pumping Station. Steamer "Thomas Clyde" will leave Arch Street Wharf at 9.30 A. M. Lunch will be served on the steamer. Landings will be made at Torresdale Filtration Plant and at Lardner's Point Pumping Station. At Torresdale full opportunity will be afforded to inspect all details in connection with the operation of the plant, which is now filtering about 200,000,000 gallons per day. Adjacent to

the filters is the recently constructed Pennypack Creek sewage disposal plant a visit to which will undoubtedly prove of interest. At Lardner's Point Pumping Station twelve 20,000,000 gallon Holly-vertical-triple expansion pumps are in operation. If members so desire, short stops will be made at Burlington, N. J., Bristol, Pa., and Florence, N. J., to afford opportunities to inspect foundries of the U. S. Cast Iron Pipe and Foundry Co., Standard Cast Iron Pipe and Foundry Co. and R. D. Wood & Co. Returning a stop will be made at the Arch Street Wharf, in the late afternoon, to permit those to land who so desire. The steamer will continue down the Delaware River, landing for a shore dinner at Washington Park, N. J. Final return will be made to Philadelphia in the early evening.

Central States Water Works Association.

The seventeenth annual convention was held at the Breakers' Hotel, Cedar Point, Ohio, August 26-28. The meeting was called to order by President J. C. Beardsley, Cleveland, O. In speaking of the future of the society he said that it should appeal to men connected with private as well as public plants. One class of legislation is not wanted for companies and another for municipal plants as their interests were identical. Referring to the constitutional amendment of the American Water Works Association which provides for the organizing of chapters, and the taking in of existing local societies as chapters, the president explained the details of the proposition as it would affect the Central States Association. C. W. Wiles, Delaware, O., spoke in favor of accepting the American Association offer. J. C. Martin, Wilmington, favored affiliation on the ground that the larger membership would result in increased influence. A local organization he thought could not have the influence of a national one. M. L. Williams, Ludington, Mich., who is a member of the American Association, said he derived more benefit from the small than the large association because the men of the latter are concerned with the affairs of large plants, which present quite different propositions from those the superintendent of a small plant has to deal with.

Secretary Bricker presented his annual report showing the financial affairs of the society to be in good shape. At the second session Philip Burgess, Columbus, read a paper on "Some Features of Engineering Appraisements of Water Works Properties." The paper was discussed by J. C. Martin, C. W. Wiles and J. C. Beardsley. Commissioner Dick Dewey, Pontiac, Mich., presented a local proposition for the extension of waterworks, and the question was discussed with much interest. M. J. Springborn, director of public service, Cleveland, O., read a paper on municipal ownership.

The social features included automobile trips, dinners and inspections of waterworks and industrial plants.

Exhibits.

The H. Mueller Mfg. Co., Decatur, Ill., and New York City, displayed quite an elaborate exhibit, consisting of three tapping machines, meter test, curb boxes, machine for filling street sprinklers, full line of brass goods and calking tools, tops for Buffalo boxes. This exhibit was the more appreciated because it was the first that this well-known house has had at the Central States conventions for several years past. Mr. F. B. Mueller attended.

W. W. Strickler & Brothers, Columbus, Ohio, showed their Strickler ratchet pipe cutter, which has only been on the market now about ten months; it cuts up to 30-inch pipe with a ratchet. Represented by C. K. Strickler.

The Hill Pump Valve Co., Chicago, Ill. represented by W. T. Birch, showed complete line of rubber pump valves.

The Ford Meter Box Co., Wabash, Ind., represented by Edwin H. Ford, president of the company, showed a line of literature and exhibit of parts of meter boxes.

The Gamon Meter Company, Newark, N. J., represented by W. A. Fleig, showed a line of their meters.

The Modern Iron Works, Quincy, Ill., represented by George J. Fischer, president, meter boxes, D-B-M Wireless electric pipe locator, automatic flush tank regulator, curb boxes, patent top for Buffalo box.

John Cripps, of the Eagle White White Lead Co., Cincinnati, gave the boys a souvenir in the shape of a memo book and pencil.

The Thomson Meter Co., represented by Capt. J. C. Beardsley, showed a Lambert meter which instead of the regular brass top was fitted up with glass sides so as to display the working of the interior mechanism in operation, operating here on an orifice of 1-64 part of an inch, at 35 lbs. pressure. In addition to Mr. Beardsley the familiar countenance of H. J. Putnam and W. H. Luckett radiated smiles as usual. Putnam was never known to look sour.

Among others in attendance were J. A. Kiewel and Clay J. Smith, of the Farnan Brass Works, Cleveland; Lee Dinkel, of the Glauber Mfg. Co., J. H. McCormick, of the H. Mueller Mfg. Co., Cleveland; C. C. Smith, Hersey Mfg. Co., Detroit, Mich.; J. C. Pearson, National Meter Co., Cincinnati; A. L. Holmes, Grand Rapids, Mich.

The following officers were elected: president, J. C. Martin, Wilmington, O.; vice-president, F. W. Collins, Manistee, Mich.; treasurer, A. W. Inman, Masilon, O.; secretary, R. P. Bricker, Shelby O.; state vice-presidents, Charles Londick, Three Rivers, Mich.; James W. Wilkinson, Bellaire, O.; D. G. Brown, W. Va.; executive committee, H. L. Williams, Ludington, Mich.; C. W. Wiles, Delaware, O.; W. C. Davidson, Charleston, W. Va.

The eighteenth annual convention meets at Wheeling, W. Va., on dates in 1914 hereafter to be announced.

League of Third Class Cities of Pennsylvania.

The fourteenth annual convention opened in Erie, Pa., August 26. About 200 delegates registered at headquarters, the Chamber of Commerce. The meeting was called to order by Mayor Stern, president of the league. He said in part:

"Since the meeting of this league at Wilkes-Barre one year ago there has been a session of the legislature of this state, during which session many laws were enacted which will change the conduct of the business of municipalities of the third class. First among these new laws is that which is known as the Clark law, which places the government of cities of the third class in the control of four councilmen and a mayor. It will be well for this convention to carefully consider the different features of this new law in order that those upon whom this great responsibility will fall will be better able to enter upon the performance of their duties.

In response to the welcome extended by Erie's mayor, Charles S. McHugh, city solicitor of Wilkes-Barre, thanked him and said that the delegates were glad to come to Erie, recognized as one of the important cities of the state, and that the delegates had looked forward with pleasure to the convention here. He then discussed the Clark commission government bill and advocated non-partisan elections of city officials.

When the afternoon session convened James A. Gardner, city solicitor of New Castle, read the report of the law committee of the association. He told of the meeting of the committee in Harrisburg prior to the meeting of the legislature and the drafting of bills which would benefit third class cities. Among the measures urged were a state appropriation for sewers, the abolishment of two councils and the election of a small council on a non-partisan ballot, abolishing railroad grade crossings, taxation of public utilities, providing for the collection of all taxes by the city treasurer, providing for the redistricting of cities every ten years, providing for underground conduits.

He said the league had declared in favor of small councils elected on a non-partisan ballot and he touched upon the Clark commission government bill and said he hoped it would meet the expectations of its advocates. He regarded as important the bill requiring the licensing of plumbers and providing the city planning commission. He urged the passage of a bill taxing the real estate of public utility corporations and the repeal of the four mill tax on municipal bonds.

Arthur D. Bacon, president of the select council of Harrisburg, discussed city planning.

Mayor Goff, Meadville, discussed city planning and spoke of a law which gives cities the right to condemn ground within 200 feet of a park.

Water Commissioner William Hamilton, Erie, gave an account of the Erie

city waterworks and the recent improvements which resulted in a reduction of the typhoid rate.

John N. Chester, consulting engineer, Pittsburg, gave a more technical description of the Erie water works.

At a smoker in the evening, G. Irving Blake, president of the Chamber of Commerce, explained the part taken by that body in promoting city planning in Erie. He said that a boulevard 28 miles long encircling the city was contemplated.

Mayor Nevins, Easton, gave his impression of Erie, the park system coming in for chief praise.

Of especial interest to city solicitors and those legally inclined, was the paper of City Solicitor Frank P. Cummings, Williamsport. "Some Thoughts on the Law Establishing Commission Form of Government in Pennsylvania." Pro and con he threshed out the clouded points in the new law and questioned their constitutionality.

City Solicitor Charles H. English, at Erie, discussed thoroughly the recently enacted public utilities bill, and the new measure was the subject of considerable discussion on the part of the delegates inclined to legal technicalities. He told of the formation of the commission of seven, appointed by the governor, and told of the work they were expected to do. As their salary is \$10,000 a year they are not supposed to have other outside business which would claim any part of their time.

In the opinion of City Solicitor Schoonmaker, of Bradford, the commission government law contradicts itself in several instances and special acts of the legislature of judicial decisions may be necessary to correct imperfections.

"The Care of Paved Streets," by City Engineer Briggs, was technical in tone and in it he told of the several different kinds of streets tested in Erie. Prices and figures for the work gathered during his long experience as city engineer in Erie were given and especial data were given on the laying of asphalt streets.

Showing a thorough understanding of his work and treating it in all its different phases, A. P. Michaels of Cleveland, a conduit expert, read a paper which dealt with conduits and conduit placing. He told of the early conduits constructed as a wooden trough and traced improvements made up to the present time.

The next convention will be held in Meadville. The following officers were elected:

President, Mayor M. F. Graff, Meadville; vice-president, City Solicitor James A. Gardner, New Castle, treasurer, John K. Haggerty, Chester; secretary, Fred H. Gates, City Clerk, Wilkes-Barre.

Trustees—D. W. Nevin, mayor of Easton; Dr. D. A. Ickes, select councilman, Altoona; E. H. Ehernfeld.

Honorary Vice-presidents—President Select Council, York; Malcolm Gross, City Controller, Altoona; Max J. Moore, City Controller, Bradford; A.

A. Cocleran, City Solicitor, Chester; Mayor Alexaner, Corry; S. S. Horn, City Controller, Easton; Thomas Hanlon, City Clerk, Erie; John K. Royal, Mayor, Harrisburg; J. H. Biglow, City Solicitor, Hazelton; Joseph H. Kauffel, Mayor, Johnstown; Mayor of Lebanon; F. F. Cavanaugh, McKeesport; B. B. Pickett, City Solicitor of Meadville; S. J. Callaghan, New Castle; George W. Moore, City Solicitor of Oil City; M. E. Golden, Mayor of Pittston; Ira W. Stratton, Mayor of Reading; John Dillon, Mayor of Titusville; Samuel Stabler, Mayor of Williamsport; John R. Lafcau, Mayor of York; Thomas M. McGourty, Wilkes-Barre.

Illuminating Engineering Society.

A meeting of the General Convention Committee was held in the rooms of the society in the Engineering Building, New York City, August 14, Chairman C. A. Littlefield presiding. The object of the meeting was to complete all arrangements for the seventh annual convention, to be held at the Hotel Schenley, Pittsburgh, September 22 to 26. The Attendance and Trans- ready a large number of members and others interested in illumination had signified their intention of attending the convention, and it is confidently expected that the attendance will far surpass all previous conventions. For the accommodation of these the committee has arranged for a special train to leave New York over the Pennsylvania Railroad, Sunday, September 21, at 10 a. m. The delegates from Boston will also travel by this train. It will pick up a delegation in Philadelphia at 11.57 a. m. and, reaching Harrisburg at 2.35 p. m., will there take on the delegates from Baltimore and Washington, reaching Pittsburgh at 8.50 p. m. A special train for the Western delegates will leave Chicago over the Lake Shore & Michigan Southern R. R. from the La Salle street station at 8.20 p. m., Sunday, September 21, arriving at Pittsburgh at 7.40 a. m., Monday. Other special accommodations will be provided as needed. These trains will be met at points outside of Pittsburgh by members of the local committee to look after the needs of the travelers. The local committee has arranged for a full program of entertainment features, including baseball, golf, tennis, theatre and bridge parties, trips to some of Pittsburgh's big industrial plants, automobile rides, ending in a large banquet on Wednesday evening, September 24. The meeting on Tuesday evening will be held in Soldiers' Memorial Hall, at which time a description and demonstration of the wonderful lighting effects installed therein will be given. The Publicity Committee is preparing an attractive souvenir book containing a program of the convention, a copy of which will be mailed to each member, and any others desiring it, about a week before the convention.

The following program of papers has been decided upon.

T. H. Amrine, of the Harrison Laboratory of the General Electric Co., "The Cooling Effects of Leading-In Wires Upon the Filaments of Lamps of the Street Series Type."

M. Georges Claude, of Boulogne, France, "The Neon Tube Lamp."

E. C. Crittenden and A. H. Taylor of the Bureau of Standards, Washington, D. C., "The Pentane Lamp as a Working Standard."

G. M. J. MacKay, of the Research Laboratory of the General Electric Company, Schenectady, N. Y., "The Use of Nitrogen at Low Pressure in Tungsten Lamps."

Prof. F. K. Richtmyer, of Cornell University, Ithaca, N. Y., "The Photo-Electric Cell in Photometry."

Dr. C. E. Ferree, of Bryn Mawr College, Bryn Mawr, Pa., "The Efficiency of the Eye Under Different Systems of Illumination. The Effect of Varying the Distribution and Intensity of Light."

W. A. Darrach, of the Westinghouse Electric & Manufacturing Company, Pittsburgh, Pa., "Some Theoretical Considerations of Light Production."

A paper by the Engineering Department of the National Electric Lamp Association, Cleveland, Ohio, "Errors in Photometric Measurements."

Dr. C. P. Steinmetz, of the General Electric Company, Schenectady, N. Y., "The Development of Alternating Current Luminous Arc Lamp."

W. A. D. Evans, of the Cooper Hewitt Electric Company, Hoboken, N. J., "The Quartz Mercury Vapor Lamp and its Application."

V. R. Lansingh, of the Holophen Company, Cleveland, Ohio, "Characteristics of Enclosing Glassware."

S. L. E. Rose, of the General Electric Company, Schenectady, N. Y., "The Illuminating Engineering Laboratory of the General Electric Company at Schenectady."

R. B. Ely, of the Philadelphia Electric Company, Philadelphia, Pa., "Church Lighting."

S. G. Hibben, of the Macbeth-Evans Glass Company, Pittsburgh, Pa., "Modern Practice in Street Railway Illumination."

W. S. Kilmer, of the H. W. Johns-Manville Company, "Hospital Lighting."

H. B. Wheeler, of the National X-Ray Reflector Company, Chicago, Ill., "Window Lighting."

C. L. Law, Supt. of the Bureau of Illumination, New York Edison Co., and A. L. Powell, of the Harrison Lamp Works of the General Electric Company, "Distinctive Store Lighting."

J. E. Philbrick, of York, Pa., "Some Commercial Aspects of Gas Lighting."

E. F. Kingsbury, of the Photometrical Laboratory of the United States Improvement Company, Philadelphia, Pa., "Problem in Church Lighting."

A paper by the Engineering Department of the National Electric Lamp Association, Cleveland, Ohio, "New Commercial Fields Opened by Recent Developments in Lamp Manufacture."

Roscoe E. Scott, of the National Electric Lamp Association, Cleveland, Ohio, "The Evolution of Illuminants."

Dr. F. Park Lewis, President of the American Association for the Conservation of Vision, Buffalo, N. Y., "The psychological Values of Light, Shade, Form and Color."

Infant Welfare, Conference on. Milk supply, infant mortality, welfare work. 24 pp. Special Bulletin, State Department of Health, New York.

PERSONALS

The following officials have been elected or appointed:

Delaware.

Wilmington—Clerk, Clarence M. Dillon; oil inspector, John B. Connell; clerk of the market, William Parris.

Tennessee.

Athens—Mayor, John W. Bayless; city marshal, Sam O. Welch; city recorder, George G. William; superintendent of streets, John Pierce (re-elected).

Wisconsin.

Zanesville—Mayor, James A. Fathers (re-elected in recall election).

Florida.

West Tampa—City clerk, John W. Biggar; treasurer, William P. Clark; auditor, Peter Taylor; assessor, W. T. Tuitt; collector, A. T. Moore.

Texas.

Tenell—Chairman of city commission, Toell R. Bond (re-elected).

Superintendent of Public Works—H. C. MacFarlane.

Superintendent of Sanitation—Tranquilino Mackinez.

Marshal—A. C. Logan.

Chief of Fire Department—L. L. Moan.

Superintendent of Waterworks—T. T. Wheeler.

Attorney—H. P. Macfarlane.

Engineer—Lester F. Allen.

Tennessee.

Athens—Aldermen, A. C. Owen, Prof. Alvis Craig, Tom Sherman, M. C. Clayton, James V. Fisher, C. T. Riddle, G. F. Lockmiller, Harry Evans, O. R. Brigham and W. E. Carroll.

Cooper, Hugh L., chief engineer of the Keokuk Dam, Ia., at the nearing completion of the work, has gone away for a European tour, where he will visit many officials and engineering works. T. P. Allen will remain as chief of staff and Dexter P. Cooper as superintendent of construction.

Fuller, Wm. B., of the firm of Johnson & Fuller, Civil and Sanitary Engineers, 150 Nassau street, New York City, returned to his New York office on August 25 from La Boquilla, Mexico, having resigned his position as chief engineer in charge of the construction of a large dam for Canadian interests. During the two years Mr. Fuller was in charge of this work it was carried on under exceptional difficulties, being the center of a revolutionary district from which supplies were frequently cut off for months at a time. The works have been occupied from time to time by many different political forces all of whom made pointed demands for money, and who often were not very particular as to the use of rifles in collecting. Finally, on being threatened with instant execution by an approaching federal force, and waiting until this force was within four miles of his camp, realizing that the situation was serious, Mr. Fuller made his escape on horseback to a ranch fifty miles away, from which place he reached the border by automobile.

Hastings, Clinton H., Martinsville, Ind., has tendered his resignation as mayor to take effect Aug. 1. He intends to go to the northwest.

Henry, Alden L., Cloversville, N. Y., has presented his resignation as mayor because of ill-health.

McMullen, Richard C., Wilmington, Del., has been appointed by Mayor Harrison W. Howell as a member of the Board of Public Utilities Commissioners for five years.

Poorman, George, Valley Junction, Ia., has been appointed to audit the books of Mayor George Grey.

MUNICIPAL APPLIANCES**Pierce-Arrow Two-Ton Truck Chassis.**

The Pierce-Arrow Motor Car Company, Buffalo, N. Y., has placed on the market a 2-ton worm driven motor truck. The general design is along the same lines as that of their 5-ton truck.

The following is a brief outline of the specifications:

No. of cylinders—Four, cast in pairs.
Cylinder dimensions—4-inch bore, 3½-inch stroke, 25.6 H. P.

Rev. per minute—350 to 1,050.

Ignition—Bosch fixed point.

Carburetor—Special automatic, gasoline, gravity.

Control—Foot accelerator.

Oiling—Pressure feed.

Clutch Co—Cone type.

Transmission—Selective, sliding gears direct on high speed. Side lever control. Worm gear drive. Four miles per hour on 1st speed; 8 miles per hour on 2d speed; 16 miles per hour on 3d speed; 3 1-3 miles per hour on reverse.

Bearings—Ball and roller all over except the motor.

Springs—Semi-elliptic, extra long.

Wheels—Specially selected wood.

Tires—36x4 front single, 36x4 rear dyak. Solid.

Brakes—Foot brake on outside of drum on rear of transmission. Hand brake on inside of drums on hubs, both rear wheels.

Tank capacities—Gasoline, 15 gallons; water, 8 gallons; oil, 1 gallon.

Frame—Channel section, pressed from special steel and heat treated.

Wheel base—12 ft. 6 in. standard.

Tread—56 inches.

Chassis overall—18 ft. 6 in. long, 5 ft. 6 in. wide.

Body dimensions—10 ft. 6 in. long, 6 ft. wide.

Height to floor—3 ft. 6 in.

Ground line to top of frame—light—30 inches.

Width of frame—34 inches.

Steering gear—Nut and screw.

Radiator—Tubular type; vertical tubes.

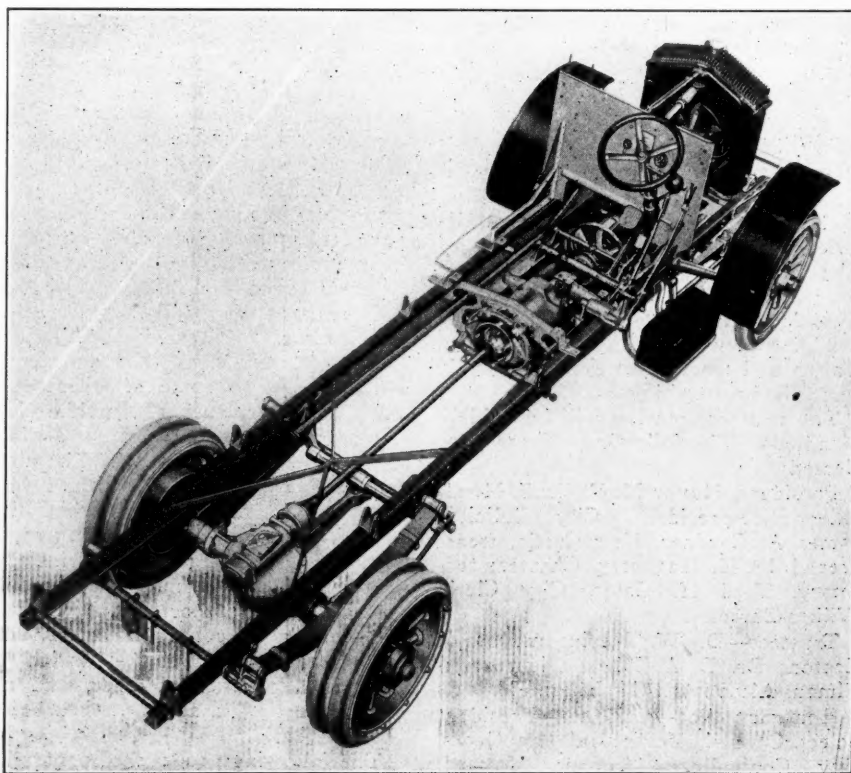
Total admissible load on chassis—5,200 pounds. This includes body and paying load.

Chassis equipment includes the running gear, tires and mechanism complete in the lead; driver's seat, dash and footboards; front mudguards, side and tail lamps, horn and set of tools; Bosch magneto and gasoline tank. Also includes metal clips, for clipping wooden sills and body to chassis.

Trus-Con Armor Plates Used to Protect Expansion Joints in Concrete Pavements.

The Trussed Concrete Steel Company, Detroit, Mich., make an armor plate designed to protect expansion joints in concrete pavements from abrasion.

In hot weather concrete pavements tend to lengthen or expand, and in cold weather to shorten or contract. It is evident that the cracks in concrete pavements form when the pavement tend to shorten. If we are to forestall the formation of cracks in a haphazard way, it is necessary to provide expansion or contraction joints at certain distances along pavement. It will be realized at the outset that the expansion joints constitute the weakest point in the pavement, unless the edges



NEW PIERCE-ARROW TWO-TON TRUCK CHASSIS.

INDUSTRIAL NEWS

are protected against rutting and chipping by traffic.

This protection is provided for in the Trus-Con Armor Plate. The plates are placed face to face with a layer of some elastic material between, which will absorb the expansion or allow uniform contraction. Prongs formed from the plates provide thorough anchorage to the concrete so that they cannot cleave away under traffic pressure. The plate wears with the rest of the pavement and thus provides a smooth even surface at the joint without ruts or bumps.

For convenience in shipping and handling trus-con armor plates come to the field with prongs sheared but not bent out. The prongs are readily transformed on the job with a common wrench or piece of gas pipe. Plates are furnished curved to pitch or crown of pavement.

A most successful example of concrete pavement with expansion joints properly protected with trus-con armor plates is on McKinley Place, Grosse Pointe, Mich. On this job two plates were clamped together with a board of desired thickness between, cutting the entire depth of pavement. After concrete is poured this board is removed and the space filled with plastic asphaltum. If preferred, a layer of asphaltum felt of desired thickness can be used in between the two plates. Either process is satisfactory, will allow of expansion and prevent joint filling with grit; although the felt method is somewhat cheaper. The assembled plates are held in place at grade line by being attached temporarily to side grade boards and supported by pins driven into sub-grade.

The concrete mixer with which the McKinley Place pavement was laid was a Koehring street paving mixer made by the Koehring Machine Company, Milwaukee, Wis. After delivery into the mixer in wheelbarrows the material is not touched until it is spread on the roadway. A hoisting skip delivers the material into the drum and a bucket traveling on a boom spreads it on the walk.



NEAR VIEW OF TRUS-CON JOINT.

Cast Iron Pipe.—Chicago. New inquiries are reported as light. Prices are unchanged. Quotations: 4-inch, \$28; 6 to 12-inch, \$26; 16-inch and up, \$25. New York. It is stated that bids will be asked in September, for a large amount of flexible 36-inch pipe for the extension of the Catskill water supply to Staten Island. Public lettings are few and for small amounts. The trade believes that drought conditions will lead to activity in water works extension as soon as they can be financed. Quotations: 6-inch, car loads, \$23 to \$24.

Lead.—Prices are higher on account of strikes at the mines. Quotations: New York, 4.75 c.; St. Louis, 4.675.

Fire Department Tires.

A count was made of the kinds of rubber tires used on the automobile apparatus shown on the first day of the convention of the International Association of Fire Chiefs, Grand Central Palace, New York, September 1. The figures are as follows. One unit represents a complete set of four tires.

Goodrich	7½
Gibney	½
Kelley	½
Goodyear	3½
Goodyear-Motz	5
Firestone	5
United States	3
Dayton airless	3
Swinehart	1

Motor Fire Apparatus.—The Fire Department of the city of Pittsburgh, Pa., now has the following apparatus under construction. Ten American La France Type 10, combination chemicals and hose wagons costing \$4,500 each. Five Knox combination chemicals and hose wagons at \$5,250 each. One 85-foot spring hoist Seagrave aerial truck with a Knox Martin three wheel tractor attached, at \$8,950. One 75-foot spring hoist Seagrave aerial truck with a Knox Martin three wheel tractor attached, at \$8,550.

Water Softening.—The Kennicott Company, manufacturers of water softening devices have had their history written and printed in an attractive booklet by the Roycrofters, as the result of a recent visit to the plant at Chicago Heights by Elbert Hubbard. The method of treating the subject will doubtless interest many who would look to other publications of the company for technical information. A copy of the book will be sent to any person interested in the subject who will address the Kennicott Company, Chicago Heights, Ill.

Mechanical Power Transmission Machinery.—The Allis-Chalmers Mfg. Company, Milwaukee, Wis., in catalogue No. 133 recently issued, describes and illustrates their line of mechanical power transmission machinery, which it is stated have been increased in variety and improved in design since the previous edition was published. The line includes shafting, couplings, pulleys, friction clutches, gears, pinions, sprocket wheels, bearings, hangers, belting, lag screws, bolts, etc. The book is cloth bound and has 300 pages, the last 25 of which contain information of value to engineers dealing with power questions.

Concrete Mixer.—The Milwaukee Concrete Mixer & Machinery Company, Milwaukee, Wis., has increased its capital stock from \$80,000 to \$125,000 and changed its name to the Milwaukee Concrete Mixer Company. The works will be devoted from now on exclusively to the manufacture of concrete mixers and the additional stock issue is to provide funds for increased production.

Alco Trucks.—The board of directors of the American Locomotive Co., at a meeting held on August 13, decided to discontinue the manufacture and sale of automobiles and motor trucks. The company is arranging to furnish owners of Alco vehicles with repair parts for a period of not less than five years and is preparing to fulfill its obligations given under guarantee to its customers.



TRUS-CON JOINT—KOEHRING MIXER.

WEEKLY CONTRACT NEWS

ADVANCED INFORMATION

BIDS ASKED FOR

CONTRACTS AWARDED

ITEMIZED PRICES

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we cannot guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also correction of any errors discovered.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
STREETS AND ROADS				
Minn.	Little Falls	10 a.m., Sept.	6.. Road grading	M. J. Vlechorek, Comr.
Utah	Ogden	10 a.m., Sept.	6.. Grading and asphalt pavement	H. J. Craven, City Engr.
Ore.	Olympia	Sept.	6.. Highway; cost, \$60,000	State Highway Comr.
Wis.	Racine	10 a.m., Sept.	6.. Paving two streets	P. J. Connolly, City Engr.
La.	Lake Charles	Sept.	7.. Wood, brick, asphaltic concrete, 84,000 yds.	C. M. Richard, VII. Clk.
Ark.	Jonesboro	Sept.	7.. Vitrified brick, 10,000 sq. yds.	B. H. Berger, Secy.
Tenn.	Memphis	11 a.m., Sept.	8.. Cement pavement, 52,500 sq. ft.	W. L. Thompson, Chief Eng.
N. Y.	Tonawanda	Sept.	8.. Paving two streets; cost, \$65,800	Bd. Pub. Wks.
N. J.	Montclair	8 p.m., Sept.	8.. Pavement	Town Clerk.
La.	New Orleans	noon, Sept.	8.. Highway, 12 miles	State Engr.
Fla.	Lake City	8 p.m., Sept.	8.. Cement sidewalks, 3,500 sq. yds.	Bond Trustees.
Mich.	Flint	3 p.m., Sept.	8.. Paving Second Ave.	D. E. Newcombe, City Clk.
N. J.	Camden	10.30 a.m., Sept.	8.. Resurfacing road, Haddon Twp., with Amiesite	F. W. George, Clk.
N. J.	Audubon	8 p.m., Sept.	8.. Cement sidewalks and curb	J. Y. Krout, Boro. Clk.
O.	Wauseon	1 p.m., Sept.	8.. Road improvements	C. J. Ives, Co. Aud.
Pa.	Freeport	8 p.m., Sept.	8.. Improving street	D. E. Taylor, Boro. Engr.
La.	Shreveport	2 p.m., Sept.	8.. 2,500 sq. yds. paving	L. H. Baker, Secy.
S. D.	Mitchell	1 p.m., Sept.	8.. Grading and improving	D. D. Davies, Clk.
S. D.	Watertown	8 p.m., Sept.	8.. Paving, curbing and guttering	O. M. Lane, City Aud.
Minn.	Blue Earth	1 p.m., Sept.	8.. Grading and turnpiking	S. C. Armstrong, State Rd. Eng.
Minn.	Tyler	8 p.m., Sept.	8.. Graveling, 1 1/4 miles	J. C. Frederickson, Clk.
Minn.	Minneapolis	11 a.m., Sept.	8.. Graveling	A. P. Erickson, Auditor.
O.	Newark	noon, Sept.	8.. Paving	J. McCarthy, Dir. Pub. Ser.
Wis.	Tomah	Sept.	8.. 5,888 sq. yds. brick pavement and asphalt filler	W. Koopman, City Clk.
Ala.	Ft. Payne	noon, Sept.	9.. Grading, draining and surfacing with chert	W. S. Keller, State Hy. Engr.
Kan.	Hutchinson	Sept.	9.. 7,800 sq. yds. brick pavements and 3,500 ft. curb & gutter	G. L. McLane, C. E.
Minn.	Fairmont	1 p.m., Sept.	9.. Grading and constructing state roads	H. C. Nolte, Co. Auditor.
Ill.	Charleston	2 p.m., Sept.	9.. Gravel roads	W. O. Brown, Comr.
O.	Cambridge	noon, Sept.	9.. Paving block	J. A. Leysdon, Dir. Pub. Ser.
Ill.	Chicago	11 a.m., Sept.	9.. Repairing streets	L. E. McGann, Comr. Pub. Wks.
Del.	Wilmington	noon, Sept.	9.. Improving state road	J. Wilson, State Hwy. Comr.
Pa.	Greensburg	Sept.	9.. Grading and curbing	C. H. Lefler, Sec.
Utah	Salt Lake City	Sept.	9.. Bitulithic and Utah rock asphalt	N. Warrum, City Recorder.
S. D.	Selby	2 p.m., Sept.	9.. Cement sidewalks	H. A. Taylor, Co. Auditor.
Ark.	Jonesboro	Sept.	10.. Vitrified brick, 10,000 sq. yds.	B. H. Berger, Comr.
Wash.	Spokane	Sept.	10.. Highway, 20 miles; cost, \$73,000	County Comrs.
Va.	Ginter Park	Sept.	10.. 80,000 sq. yds. asphalt macadam	L. R. Curry, Ch. Com.
Ill.	Rantoul	Sept.	10.. 3/4 mile brick pavement on concrete foundation	Bd. of Local Improvements.
Minn.	Grand Rapids	10 a.m., Sept.	10.. Constructing highways	M. Spang, Co. Aud.
N. D.	Stanley	Sept.	10.. Building grade	S. Barlow, Town Clk.
Md.	Baltimore	noon, Sept.	10.. 4.05 miles state highway	W. L. Marcy, Sec. St. Rd. Com.
Md.	Towson	noon, Sept.	11.. 0.72 miles of state aid highway	E. S. Rossley, Sec. Hy. Com.
Pa.	York	Sept.	11.. Paving	D. A. Warner, Hwy. Comr.
O.	Cincinnati	noon, Sept.	12.. Repairing and draining roads	S. Struble, Pres.
O.	Columbus	2 p.m., Sept.	12.. Grading and paving with bituminous bonded macadam	J. A. Marker, State Hy. Comr.
Ill.	Urbana	noon, Sept.	13.. 42,000 cu. yds. light grading	J. M. White, Supt. Architecture
O.	Cleveland	11 a.m., Sept.	13.. Grading	J. F. Goldenbogen, Clk.
N. Y.	Middletown	Sept.	15.. Road, one mile	C. H. Smith, Supt.
Ind.	Shelbyville	10 a.m., Sept.	15.. Gravel road on county line	F. W. Fagel, Co. Aud.
Ind.	South Bend	Sept.	15.. Paving highway	C. Sedgwick, Co. Auditor.
O.	Toronto	noon, Sept.	15.. Turnpike	S. Wilkinson, Ch. Comrs.
Mo.	Cape Girardeau	Sept.	15.. Concrete paving, 14,000 yds.	F. A. Kage, Mayor.
Canada	Cayuga	noon, Sept.	16.. Macadam roads, 26 1/2 miles	T. A. Schnider, Clk.
Pa.	Harrisburg	10 a.m., Sept.	17.. State highway	E. M. Bigelow, State Hwy. Comr.
Pa.	Williamsport	Sept.	17.. 124,624 ft. improved highways	State Hy. Dept.
O.	Findlay	Sept.	17.. Water bound macadam pipe	L. Brickman, Ch. Co. Com.
N. J.	Atlantic City	Sept.	18.. Paving; probable cost \$250,000	J. B. Thompson, Dir. St. &
O.	Fostoria	Sept.	18.. Brick or sheet asphalt, 8 blocks	C. A. Latshaw, City Engr.
Tenn.	Johnson City	7.30 p.m., Sept.	18.. 90 yds. street car paving, 17,052 yds. paving and grading, 7,634 ft. curb and gutter, 3,510 ft. of 6-inch sewer connection, 3,075 ft. 8-inch vitrified sewer, 6 manholes, 1 catch basin, 205 ft. 12-inch sewer	P. F. McDonald, City Comr.
O.	Cincinnati	noon, Sept.	19.. Improving road	A. Reinhardt, Clk.
Wis.	Kenosha	2 p.m., Sept.	19.. Grading, curbing and reinforced pavement	D. O. Head, St. Assn. Com.
Wis.	Racine	10 a.m., Sept.	27.. Paving	P. H. Connolly, City Eng.
Ill.	Marion	Oct.	1.. Asphaltic macadam and brick	G. C. Campbell, Clk.
Ill.	Frankfort	Oct.	10.. Eight miles granitoid sidewalks	Leming, Clk.
Ill.	Hurst	Oct.	15.. Six miles granitoid sidewalks	V. H. Burkhardt, Pres. Bd. Local Impts.
SEWERAGE				
Mont.	Malta	Sept.	6.. Sewer system and water works	City Clerk.
Wis.	Racine	Sept.	6.. Pavements and sewers	Bd. Pub. Wks.
La.	Lake Charles	Sept.	7.. Storm sewers, 6 miles	C. M. Richards, City Clk.
Ohio	Toronto	noon, Sept.	8.. Main sewer	James Connor, VII. Clk.
N. J.	Camden	Sept.	8.. Clay pipe, 1,612 lin. ft.	Boro. Council.
O.	Napoleon	noon, Sept.	8.. Storm water and sanitary sewer	J. J. Downley, VII. Clk.
O.	Newark	noon, Sept.	8.. Drainage sewer	J. McCarthy, Dir. Pub. Ser.
La.	Sac City	7 p.m., Sept.	8.. 720 lin. ft. sanitary sewer	F. W. Weary, City Clk.
N. J.	Newark	2 p.m., Sept.	9.. Outfall pressure tunnel	Passaic Valley Sewerage Comrs
N. Y.	Buffalo	11 a.m., Sept.	11.. Sewer and sewer extension	F. G. Ward, Comr. Pub. Wks.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
O., Columbiana	.....noon, Sept.	12..	Sewerage disposal plant.....	H. A. Inman, Clk.
Neb., Alliance	.....noon, Sept.	12..	Laterals; cost, \$830.....	J. D. Emerick, City Clk.
Mo., St. Louis	.....noon, Sept.	12..	Third section Glaise Creek sewer.....	Bd. Local Imps.
Wis., Madison	.....Sept.	12..	Vitrified pipe	O. S. Norsman, City Clk.
O., Delaware	.....Sept.	14..	Vitrined pipe, 600 ft. 8-inch.....	G. S. Erwin, City Engr.
N. C., Raleigh	.....Sept.	15..	Sewer and water mains.....	Riddick & Mann, Engrs.
Pa., State College	.....8 p.m., Sept.	15..	6,000 ft. of 10-in. and 6-in. sewers.....	J. T. McCormick, Pres. Council
Pa., Carbondale	.....6 p.m., Sept.	15..	Sewers	H. G. Likiey, City Engr.
Ill., Jerseyville	.....1 p.m., Sept.	17..	Ditch and levee work.....	S. M. Reddish, Comr. Drainage
WATER SUPPLY				
Mont., Malta	.....Sept.	6..	Water works and sewer system.....	City Clk.
Pa., South Bethlehem	.....noon, Sept.	6..	Sale of old boilers and pumps.....	J. Kuerr, Ch. Com.
Pa., Tarentum	.....Sept.	8..	Crib and intake well.....	W. F. Denny, Bor. Coun. Pres.
Cal., Whittier	.....Sept.	8..	Water meters	C. Trueblood City Clk.
D. C., Washington	.....2 p.m., Sept.	8..	Four motor driven vertical centrifugal pumping sets.....	Maj. W. J. Barden
Ill., Taylorville	.....1 p.m., Sept.	8..	Pumping engine, 750,000 gal., buildings, power plant, etc.....	M. Brovine, Mayor.
Ill., Assumption	.....Sept.	9..	Cast-iron pipe, 16,500 ft. 6-inch; pump, etc.....	S. M. Haverfield, City Clk.
N. Y., Sonyea	.....2 p.m., Sept.	9..	Water supply for hospital.....	P. L. Lang, Pres.
Kan., Burlington	.....3 p.m., Sept.	9..	Water filtration plants.....	N. A. Limbocker, C. Clk.
O., Cleveland	.....noon, Sept.	10..	Wrought-iron pipe	W. H. Kirby, Secy. Pub. Ser.
N. Y., Schenectady	.....2.30 p.m., Sept.	10..	Steel pipe, 2,400 ft. 24-inch.....	F. E. Johnson, Secy.
Md., Baltimore	.....Sept.	10..	Several pumps and electrical equipment.....	Bd. of Awards.
Wis., Madison	.....Sept.	12..	Cast-iron pipe	O. S. Norseman, Vil. Clk.
Mass., Boston	.....11 a.m., Sept.	13..	Fuel oil storage tank.....	H. R. Stanford, Chief, Wash't.
N. C., Raleigh	.....noon, Sept.	15..	10,000 ft. sewer.....	J. H. Pou.
Fla., Jacksonville	.....10 a.m., Sept.	15..	Galvanized iron and lead pipes, pig lead.....	W. M. Bostwick, Jr. Ch.
Md., Silver Spring	.....Sept.	15..	Pumping engine	Silver Spring Water Co.
N. C., Bloomsbury	.....Sept.	15..	Water pipe, 15,000 ft.; sewer, 10,000 ft.....	J. H. Pou, Raleigh.
N. Y., Booneville	.....Sept.	18..	Concrete dam	E. E. Congdon, Pres. Bd. W. C.
Pa., Allentown	.....10.30 a.m., Sept.	19..	Plumbing and water supply in hospital.....	H. C. Weinert, Clk.
Ill., Assumption	.....Sept.	19..	Water main, 16,500 ft. 6-inch.....	R. F. Johnson, Secy.
LIGHTING AND POWER				
Minn., Keewatin	.....8 p.m., Sept.	9..	Reciprocating engines, generator, switchboard, etc.....	J. J. Roberts, Vil. Clk.
La., Bayard	.....Sept.	9..	Electric lighting systems.....	F. E. Munger, Twn. Clk.
Mich., Detroit	.....Sept.	9..	Detached power plant for high school.....	C. A. Gado, Sec. Bd. Educ.
La., Lake Charles	.....Sept.	11..	Supplying city with gas.....	City Clk.
Fla., Jacksonville	.....10 a.m., Sept.	15..	Recording watt meters, 1,000.....	R. N. Ellis, Pur. Agent.
O., Akron	.....noon, Sept.	16..	Two hydraulic turbines and generators, 250 & 75 K. V. A.....	R. M. Pillmore, Dir.
Man., Winnipeg	.....Sept.	20..	Transmission line	M. Peterson, Sec. Bd. Control.
N. J., Elizabeth	.....2.30 p.m., Sept.	22..	Power plant at Tuberculosis Farm.....	J. M. Cady, Dir.
Sask., Regina	.....Oct.	1..	Coal bunkers, ash hoppers, coal and ash conveyors and crushers	City Comrs.
FIRE EQUIPMENT				
Cal., Pasadena	.....10 a.m., Sept.	9..	Motor aerial truck, 2 motor combination wagons.....	Comrs.
BRIDGES				
Ga., Trenton	.....noon, Sept.	6..	Steel bridge	C. S. Turner, Ordinary.
Kan., Ft. Scott	.....Sept.	6..	Concrete bridges	F. G. Schwarz, Co. Clk.
O., Tiffin	.....Sept.	6..	Concrete bridge; cost, \$50,000.....	J. H. Lennartz, Co. Aud.
Colo., Castle Rock	.....noon, Sept.	8..	Concrete bridge	H. Jones, Co. Clk.
Ohio, Akron	.....11 a.m., Sept.	8..	Abutment to bridge and culvert.....	C. L. Bower, Clk.
Ind., Peru	.....Sept.	9..	Bridge over Wabash River.....	F. K. McElheny, Co. Aud.
Ga., Columbus	.....9 a.m., Sept.	9..	Steel concrete bridge	J. R. Lain, Supt. Roads.
Me., Augusta	.....11 a.m., Sept.	10..	Two highway bridges	P. D. Sargeant, Ch. Engr.
Iowa, Charles City	.....noon, Sept.	11..	Bridges and culverts.....	H. B. Rosencranz, Co. Aud.
Cal., Sacramento	.....Sept.	12..	Concrete bridge over American River.....	Supervisors.
O., Youngstown	.....11 a.m., Sept.	24..	Concrete abutments	I. M. Hogg, Co. Aud.
MISCELLANEOUS				
Ind., Indianapolis	.....noon, Sept.	8..	Automobile number plates, 60,000.....	L. G. Ellingham, Secy.
N. J., Garwood	.....8 p.m., Sept.	9..	Removal of ashes and garbage.....	C. H. Keim, Boro. Clk.
Conn., Hartford	.....11 a.m., Sept.	9..	Public comfort station	J. Butts, Sec.
Ind., Indianapolis	.....10 a.m., Sept.	10..	Retaining wall	W. T. Patten, Co. Aud.
Cal., Sacramento	.....2 p.m., Sept.	12..	Furnishings for court house.....	E. F. Pfund, Co. Clk.
Texas, Dallas	.....Sept.	13..	Jail	Co. Comrs.
N. Y., Schenectady	.....2.30 p.m., Sept.	17..	Buildings for garbage reduction plant; also conveyor.....	F. E. Johnson, Sec.

STREETS AND ROADS

Annison, Ala.—Calhoun County Commissioners are considering expending \$50,000 annually for road improvements. County will undertake construction under supervision of W. E. Parker.

Birmingham, Ala.—Jefferson County Board of Revenue will construct macadam road from Pinson to Blount County line, about 8 miles.

Birmingham, Ala.—Ordinances have been passed providing for certain improvements on Madison avenue and Underwood avenue. H. S. Ryall is city clerk.

Evergreen, Ala.—Conecuh County Commissioners will shortly issue \$50,000 bonds for road construction.

Rockford, Ala.—Coosa County will vote Oct. 6 on \$75,000 bonds to build and improve roads; also \$2,000 for road near Goodwater and \$1,200 for road near Rockford.

Yuma, Ariz.—Whether Yuma County shall issue \$500,000 worth of bonds for purpose of building new roads and improving her present highways will be decided at special election called for Sept. 27.

Eureka, Cal.—State Road Commissioner N. D. Darlington has announced that step toward great highway system contemplated would be taken within 60 days. It would be for construction of first six miles of state highway in Humboldt County, stretch that will start at Mendocino County line and extend north.

Lompoc, Cal.—The citizens have voted to construct roads in and about Lompoc at a cost of about \$100,000.

Nevada City, Cal.—At meeting of Trustees Board voted to appropriate \$500 towards new cut-off road being built between Columbia Hill and Alleghany.

Oakland, Cal.—City council has directed city engineers to prepare proceedings for improvement of 62d avenue from East 14th street to northerly termination of said 62d avenue and has recommended passage of intention for sidewalk 14th avenue between East 14th street and Hopkins street.

Oakland, Cal.—City council has directed city engineer to prepare proceedings for improvement of East 28th street and Garden street.

Placerville, Cal.—The El Dorado County Forest Service has sent out requests for bids for construction of road over Ice House Hill. Proposed road will reduce present grade from 10 to 25 per cent.

Wilmington, Del.—The force of city surveying department is devoting its time just now to surveying curb and street lines for improvements at intersections of Boulevard, Concord Ave., Harrison, Franklin, 24th, 25th and 26th Sts., Concord Heights. Within next few days specifications will be furnished and bids asked for work of laying curbs and 6-ft. sidewalks along all the streets effected by this improvement, together with a portion of the Boulevard between Concord Ave. and 29th St.

Bonifay, Fla.—Holmes County is said to be considering \$40,000 road bonds.

Orlando, Fla.—City has voted \$100,000 bonds for brick street paving. W. H. Reynolds is Mayor.

Atlanta, Ga.—Oiling of road from Brookwood to Buckhead has been ordered.

Cartersville, Ga.—City has voted \$15,000 bonds for improvement of streets. G. W. Young is Mayor.

Moultrie, Ga.—Colquitt County will shortly vote on \$400,000 bonds for construction of roads.

Springfield, Ill.—The appropriation for road construction work will be one of principal matters of business to be taken up by County Board of Supervisors at regular September meeting to be held on Sept. 9.

Rockville, Ind.—Bonds in sum of \$11,115 for gravel roads will be sold by J. H. Rush, Treas. Parke County, at 2 p. m., Sept. 6, to be used for A. A. Drake road, Sugar Creek Township, and S. E. McCampbell road, Washington Township.

Cedar Rapids, Ia.—City Council has passed resolution for paving new Third Ave. bridge with creosoted wood blocks. It is said that about 50,000 sq. yds. brick paving is being considered in the near future. Thos. F. McCauley is City Engr.

Newton, Kan.—Ordinance has been passed for construction of certain sidewalks in city of Newton.

Pittsfield, Mass.—Board of Public Works has decided to lay 1,000 ft. of sidewalk on Pomeroy Ave.

Minneapolis, Minn.—The Hennepin county board has voted to construct a road from Robbinsdale to Rockford at a cost of about \$110,000.

St. Paul, Minn.—Bonds in sum of \$32,990 for improvement of Arcade street have been sold and bids for material for paving will shortly be advertised.

Boonville, Mo.—A proposition to bond city of Boonville for \$25,000 for street improvement has been carried by ratio of 520 for proposition to 186 against it.

East Orange, N. J.—City Council has agreed to enter into contract with Board of Freeholders for laying bituminous concrete pavement on roadway of Central Ave.

Elizabeth, N. J.—Bids for paving of North Ave., Elmer St. and Lenox Ave., a stretch of road 2 1/4 miles in length, extending from Cranford to Westfield, have been received, but no contract let. Bids received for road work between Cranford and Westfield were as follows: Hassan Paving Co., bid incomplete and not considered; Walden Contracting Co., four bids on two types, amiesite, \$39,094.91 and \$40,534.49, warrenite, \$43,094.91 and \$43,879.91; E. H. Winans Co., amiesite, \$40,473.51, westonite, \$41,512.37 and warrenite, \$43,304.25; Newton Paving Co., two types bid on, \$45,754.52 and \$48,555.26; Bamberger-Chapman Co., three types bid on, \$42,252.65, \$42,641.66 and \$43,426.66.

Long Branch, N. J.—Bids for laying paving were submitted Aug. 19 and were from eight concerns or individuals. They ran all way from \$1.35 a sq. yd. for concrete pavement to \$2.64 for wooden blocks. Those that submitted bids follow: Newton Paving Co., Trenton; The Standard Bitulithic Co., New York; C. H. Winans, Elizabeth; Charles E. Burd, Red Bank; Newark Paving Co., Newark; Hassan Paving Co., Newark; Bamberger & Chapman Co., East Orange, and Richard Lamb, New York. Matter will be settled at next meeting, Sept. 2.

Newark, N. J.—Finance Committee of Board of Freeholders has voted to again advertise sale of bonds issued in amount of \$150,000 for improvement of Plank road. Bids will be received at 11 a. m., Sept. 11.

Newark, N. J.—Authorization has been advised for two additional bond issues for road improvement on recommendation of County Engineer Reimer. These are designated to cover county's share in paving of Bloomfield Ave., Bloomfield, with granite block, and Myrtle Ave., also in Bloomfield, with bitulithic. Contract for Myrtle Ave. work involves expenditure of approximately \$25,000, and to cover county's share of probable cost bonds in amount of \$17,000 will be issued. Total cost of Bloomfield Ave. improvement will probably amount to \$163,000, and county's share in this expenditure is estimated at about \$100,000.

Paterson, N. J.—Bids will be received until 2 p. m., Sept. 10 by Finance and Auditing Committee of Board of Chosen Freeholders of Passaic County for purchase of road improvement bonds in sum of \$110,000. George W. Botbyler, Clerk.

Albany, N. Y.—John N. Carlisle, commissioner of highways, has completed apportionment of second \$50,000,000 which was authorized in referendum at the general election of 1912, to be used for construction and improvement of highways. Under provisions of that referendum \$20,000,000 is to be used for construction and improvement of state highways and \$30,000,000 for the construction and improvement of county highways. The apportionment, as made by Commissioner Carlisle, has been approved as to method of computation by attorney general and comptroller. Apportionment for state roads and for county roads in several counties follow:

County	Apport'd for state rds.	Apport'd for county rds.
Albany	\$427,140.80	\$640,711.20
Alleghany	360,388.80	540,583.20
Broome	335,741.20	503,611.80
Cattaraugus ..	445,184.00	667,776.00

Cayuga	328,913.40	493,370.10
Chautauqua	471,615.80	707,423.70
Chemung	320,981.60	316,472.40
Chenango	320,997.20	481,495.50
Clinton	335,462.80	503,194.20
Columbia	274,557.00	411,835.50
Cortland	196,653.60	294,980.40
Delaware	478,713.60	718,070.40
Dutchess	378,309.00	567,463.30
Erie	1,113,762.20	1,670,643.30
Essex	417,931.20	626,896.80
Franklin	414,109.00	621,163.50
Fulton	205,458.60	308,187.90
Genesee	202,593.00	303,889.50
Greene	227,046.80	340,570.20
Hamilton	276,780.40	415,170.60
Herkimer	400,495.20	660,742.80
Jefferson	557,582.80	836,374.20
Lewis	331,292.40	496,938.60
Livingston	253,638.80	380,458.20
Madison	268,150.40	403,725.60
Monroe	640,241.40	960,362.10
Montgomery	188,144.60	282,216.90
Nassau	300,907.00	451,360.50
Niagara	294,038.80	641,058.20
Oneida	593,113.40	889,670.10
Onondaga	552,841.20	829,261.80
Ontario	278,783.00	418,174.50
Orange	423,662.20	635,493.30
Orleans	163,577.00	245,365.50
Oswego	392,336.00	588,504.00
Otsego	391,710.20	587,565.30
Putnam	96,457.20	144,685.80
Rensselaer	388,010.80	582,016.20
Rockland	130,796.60	196,194.90
St. Lawrence	780,977.80	1,171,466.70
Saratoga	337,699.00	406,548.50
Schenectady	199,412.00	299,118.00
Schoharie	232,372.00	348,558.00
Schuyler	132,433.40	198,650.10
Seneca	156,522.60	234,783.90
Steuben	577,806.00	86,709.00
Suffolk	471,556.20	707,334.30
Sullivan	360,223.60	525,335.40
Tioga	201,217.40	301,826.10
Tompkins	210,735.80	316,103.70
Ulster	456,570.20	684,855.30
Warren	263,379.60	395,069.40
Washington	315,420.80	473,131.20
Wayne	273,417.20	410,125.80
Westchester	577,888.00	866,832.00
Wyoming	217,383.60	326,075.40
Yates	135,865.80	203,798.70

\$20,000,000.00 \$30,000,000.00

Babylon, L. I., N. Y.—State road bonds in sum of \$20,000 have been sold to Bank of Babylon.

Hinghamton, N. Y.—Ordinance to widen upper Court St., between east line of Griswold St. and west line of Oliver St., has been passed by unanimous consent by Common Council.

Lockport, N. Y.—Notice has been received by City Clerk Beattie from Resident Highway Engineer Charles M. Edwards of Niagara Falls, that he had been directed by State Highway Commissioner John N. Carlisle to prepare plans and specifications for construction of new Akron St. asphalt pavement, to connect High St. with new Akron road. Proposed pavement will be about 2,000 ft. in length.

Middletown, N. Y.—Paving at Low Ave. with Mack block has been authorized.

Niagara Falls, N. Y.—State highway commission has approved of application of common council for state to pave Main street between Whitney street (formerly McKoon avenue), and James avenue, distance of 4,950 ft., to connect with state highway between Buffalo and Youngstown.

Portland, Ore.—It has been decided by County Commissioners with Portland Interstate Bridge Committee to circulate petition to have proposed bond issue placed on official ballot at special election this fall. It was agreed that this election should be held on Nov. 4. The issue will call for \$1,225,000, of which \$500,000 will be for permanent roadway and approaches on this side and balance for Oregon share of actual bridge structure.

Schenectady, N. Y.—Committee on roads and bridges has reported in favor of paving Ontario street and of grading and laying sidewalks in Vischer avenue.

Schenectady, N. Y.—Petitions have been received from property owners in Rosa road asking that street from Nott street to Stockwell plot be paved with Trinidad Lake asphalt, and from property owners in 6th and 12th wards protesting against bad condition of sidewalks in Eastern avenue.

Syracuse, N. Y.—Mayor Schoeneck has filed with city clerk his veto of ordinance adopted by common council ordering paving of Spencer street, between Maltbie and Clinton.

Fargo, N. D.—Plans are being made for paving to be constructed next year.

Findlay, O.—City will issue bonds in sum of \$11,844, in order to take care of

all improvements that are now taking place. Much new paving will be completed.

Girard, O.—Bids for Kline street and Smithsonian street paving have been opened, and it is said that Turner & Olson are low bidders.

Portland, Ore.—Widening of East Burnside St. is being considered.

Prineville, Ore.—Petition is being considered asking for election for voting on bond issue of \$200,000 for good roads.

Altoona, Pa.—Mayor S. H. Walker has approved resolution passed by Councils, providing for transfer of \$2,400 in division of highways, department of public works, to pay for city's share of cost of paving about three blocks of Washington Ave., above former city limits at 22nd Ave.

Beaver, Pa.—Paving of Fourth avenue from 32d to 29th streets, and from Fourth avenue to College avenue, is being discussed.

Harrisburg, Pa.—Paving specifications for work on Derry and Locust streets and Orange alley have been approved.

Harrisburg, Pa.—Bids for the construction of 124,624 ft. of improved highway under the state aid plan have been asked by the state highway department, making largest amount of road construction work covered by advertisement in months. The counties in which the new roads are to be constructed are: Montgomery, Limerick township, 19,500 ft. of macadam; York county, Hanover borough, 3,131 ft. asphaltic concrete; Adams county, Biglerville borough, 3,289 ft. macadam; Northumberland county, Watsonstown borough, 6,674 ft. brick block; Franklin and Cumberland counties, Shippenburg borough and Southampton township, 16,368 ft. telford macadam; Susquehanna county, Great Bend, 13,327 ft. macadam; Clearfield county, Lawrence township, 4,700 ft. brick block; Lycoming, South Williamsport borough, 8,344, brick block; Crawford county, Spring township, 17,400 ft. macadam or brick block; Bradford county, Tuscarora township, 20,876 ft. macadam or brick block; Wayne county, Honesdale borough, 7,309 ft. brick block, and Cambria county, Scalp Level borough, 3,700 ft. macadam.

South Williamsport, Pa.—Citizens have voted \$23,000 bond issue for street improvements.

Angleton, Tex.—Brazoria County, District No. 2, has voted \$150,000 bonds for construction of roads.

Dublin, Tex.—An effort is being made by citizens of De Leon, Dublin and Canyon with assistance of Commissioners of Comanche and Erath Counties, to grade public road between De Leon and Dublin.

Snyder, Tex.—Two days' road work similar to plan pursued recently in Missouri, has been decided upon by citizens here. Work will be done first week in October.

Charlottesville, Va.—Highways committee of local Chamber of Commerce has decided to request city for bond issue of \$20,000 for improving roads in Charlottesville district. It is stated on good authority that county will double this sum, and State will grant equivalent of both sums in convict labor. In this way amount of \$120,000 in money and labor will be expended on highways of county.

Reardon, Wash.—Plans and estimates for about 21 miles of permanent highways have been prepared, and bids will shortly be called.

Tacoma, Wash.—Plans are being prepared by W. C. Raleigh, City Engr., for paving of Cliff Ave., from South 6th St. to Division St., at cost of about \$60,000.

Walla Walla, Wash.—Plan for network of concrete roads has been outlined by Engr. W. C. McNowan.

Janesville, Wis.—County Treasurer F. F. Livermore has received \$3,000 from State Treasurer as state highway aid for towns of Avon, Turtle and Clinton, \$1,000 for each township.

CONTRACTS AWARDED.

Opelika, Ala.—To Jamison & Hallowell, of Atlanta, Ga., for 4,800 sq. yds. Dolarway pavement.

Fayetteville, Ark.—By City to Kaw Paving Co., Topeka, Kan., to pave public square and several streets at cost of \$45,000.

Oakland, Cal.—City council has acted upon following routine street matters upon recommendation of Commissioner of Streets W. J. Baccus: Awarding contract to Oakland Paving Co. for construction of cement sidewalks on 38th avenue between East 14th and Foothill

boulevard. Awarding contract to Oakland Paving Co. for construction of cement sidewalks on East 14th street between 73d and 74th avenues.

South Manchester, Conn.—By Town Council for construction of about 10,600 ft. of sidewalks to F. A. James at 72 cts. per ft. Other bidders were: The Wilkes & Casey Co., 77 cts.; James E. Gary, 75½ cts.; L. C. Baker, 75¼ cts.

Wilmington, Del.—By State Highway Commissioner of Newcastle County following contracts for road construction: To Thomas R. Claringbold at \$22,118 for 2.45 miles of waterbound macadam between Blackbird Hundred and Blackbird; to John A. Clark at \$6,560 for 4,100 ft. of waterbound macadam from Ferguson's Corner to Barlow's Mill Lane; to the Corcoran Construction Co. at \$11,472 for 0.70 mile of the Kennett Road, and to Alfred H. McDowell at \$41,968 for 4.5 miles of the Glasgow Road.

Coeur D'Alene, Idaho.—C. M. Payne of Spokane is reported to be lowest and probably successful bidder on street improvements in Coeur d'Alene totaling in neighborhood of \$24,000. Bids called for grading, curbing and laying of concrete sidewalks in Forest Heights improvement district.

Prophetstown, Ill.—For paving with brick 4 blocks to Thos. Carey & Sons, of Clinton, Ia., at \$16,257.

Quincy, Ill.—To Frank Rees, contract for furnishing and hauling on to streets gravel for boulevard improvement.

Springfield, Ill.—Contract for paving of 18th St., from Washington St. South to South Grand Ave., and one block west on Grand Ave., has been awarded by Board of Local Improvements to Henry Neich & Son. The paving, which is to be of brick, will cost \$1,72½ per cu. yd.

Oskaloosa, Ia.—For paving High, 1st and other streets with brick to Carlon Construction Co., of Oskaloosa, as follows: 1,091 sq. yds. 5-in. concrete base, sand cushion, cement grout, \$2 per sq. yd.; 2,200 sq. yds. 4-in., \$1.90, and 2,316 lin. ft. curb, 60 cts. per lin. ft. T. J. Carlin is City Clk.

Baltimore, Md.—Contract No. 69 for wooden block paving on Water St., from South to Gay, has been awarded to Geo. Long Contracting Co. Aggregate bid was \$7,211. Contract No. 70, for bituminous concrete, sheet asphalt, vitrified brick and granite blocks, has been awarded to Southern Paving & Construction Co., of Chattanooga, Tenn., at an aggregate bid of \$132,886. Streets embraced in this contract are: Chase, from Broadway to Milton Ave.; Monument St., from Wolfe to Milton; Fayette St., from Caroline to Broadway; Gough, from Central Ave. to Broadway; Eden, from Eastern Ave. to Madison, and Bond, from Eastern Ave. to Baltimore.

Baltimore, Md.—By City contract to David M. Andrew Co., Mt. Vernon Ave. and 26th St., Baltimore, at \$51,519.50 to pave with granite blocks Fallway from Madison St. to 150 ft. south of Center St. H. K. McCay is City Engr.

Baltimore, Md.—To celebrate its entry into local paving field, newly-formed American Paving & Contracting Co. has submitted lowest bid to Commission for Opening Streets for Contract No. 126, bids for which were opened by board of awards. The new company, which took over plant and equipment of Elder Paving & Contracting Co., bid \$1.65 per sq. yd. for bituminous concrete called for by specifications, while P. Flanigan & Sons, next lowest bidder, quoted \$1.70. Approximately 22,800 sq. yds. of bituminous concrete will be laid under this contract.

Pittsfield, Mass.—By Board of Public Works to Weed & Walsh of Mechanicsville, N. Y., contract for the Wahconah St. pavement and other street improvements for \$65,610.

Collins, Miss.—By Supervisors District No. 1, contract to A. P. Ewell Bros., Birmingham, Ala., to gravel 37 miles road. Xavier A. Kramer is Engr., Magnolia, Miss.

Marshall, Mo.—By City contract to J. M. Black, Nevada, Mo., to construct 13,000 sq. yds. dollarway pavement.

Concord, N. H.—By State Highway Department contract for construction of gravel road in town of Rochester to James Cavanagh, Manchester, N. H., at \$9,096. S. Percy Hooker is State Supt. of Highways.

Bayonne, N. J.—By City Council contract to Uvalde Asphalt Co., New York, N. Y., at \$37,160 for construction of asphalt paving on Sisson Court, 28th, 42d, and 51st Sts.

Brooklyn, N. Y.—To Cranford Co., 52 9th street, Brooklyn, for regulating and paving with permanent asphalt on a

6-in. concrete foundation 86th street, from 5th avenue to 13th avenue, as follows: 18,435 sq. yds. asphalt pavement outside railroad area (5-year maintenance), \$1.07; 1,880 sq. yds. asphalt pavement within railroad area (no maintenance), \$1.05; 3,385 cu. yds. concrete, \$4.25; 130 lin. ft. new curb set in concrete, \$2; 20 lin. ft. old curb reset in concrete, \$1.50; 560 lin. ft. bluestone heading stones set in concrete, \$1; \$5.-680 cu. yds. excavation to subgrade, \$1; 150 lin. ft. combined cement curb and gutter (1-year maintenance), \$1; total, \$42,766. Totals of other bids: Barber Asphalt Paving Co., 30 Church street New York City, \$48,352; Uvalde Contr. Co., 1 Broadway, New York City, \$46,284; Brooklyn Alcatraz Asphalt Co., 407 Hamilton Ave., Brooklyn, \$46,251; Borough Asphalt Co., 1301 Metropolitan avenue, Brooklyn, \$46,359; Topeka Co., 147 4th avenue, New York City, \$45,552.

Bronxville, N. Y.—For paving Tanglewilde and Park Aves. to L. Petrillo and V. Cortesi, of Mt. Vernon, N. Y., at \$8,819.

Norwood, N. Y.—Contract for widening of Main St. in connection with state road through Main St. to Contractor Miller for \$1,000.

Schenectady, N. Y.—To Peter Camillo, of this city, contract for construction of 72,000 sq. yds. of concrete sidewalks to be laid in Chrysler Ave., McClellan St., Brandywine Ave. and Union St.

White Plains, N. Y.—Contract for road improvements has been given to Moses Griffith whose bid was \$26,195.04. Only other bid received was R. M. Rosser, \$27,183.18.

Dennison, O.—By Village Council contract for about 10,000 sq. yds. of vitrified block pavement to George J. Bock & Son, Coshocton, O., who were only bidders.

Findlay, O.—For paving South and West Hardin streets with Westrumite by Bd. of Control to C. B. Holt & Son, of Findlay, at \$16,152.

Grafton, O.—By Board of Township Trustees of Grafton Township contracts for following road construction to Kennedy & Warner, Medina, Ohio: The North Center Road, \$5,545; the South Center Road, \$4,996; the Schaeffer Road, \$7,249; the Grabbenstetter Road, \$4,390; the Speith Road, \$5,635. T. L. Gibson is Engr. of Lorain County.

Toledo, O.—Contracts for three jobs of street paving have been awarded by Service Director Cowell and approved by Board of Control. Most important is that for repaving of Jefferson Ave., which includes widening of that thoroughfare from Ontario to 17th St. Street is to be widened 3 ft. on each side. Contract was awarded to H. P. Streicher at \$49,090.54 for a combination pavement of wood block between Ontario and 17th and sheet asphalt resurfacing between 17th St. and Collingwood Ave. Streicher also was given contract for repaving Winthrop St. with sheet asphalt between Collingwood and Scottwood Aves., on his bid of \$3,433.90. Contract for paving Islington St., between Detroit Ave. and West Lake Ave., with brick, has been awarded to Harris & Tansey for \$8,817.90.

Engene, Ore.—For construction of 1½ miles of macadam road to Ambrose & Burdall Co., at \$10,535.

Klamath Falls, Ore.—To W. M. Mason for building 3.6 miles Fort Klamath road for \$5,900.

Bellevue, Pa.—For grading and paving with Ligonier block West Bellevue road by borough council, to M. O'Herron Co., of Southside, at \$17,986.

Jamestown, Pa.—By Boro. Secretary for 5,629 sq. yds. brick paving to Keystone Contracting Co., Meadville, Pa., at \$12,516.

Media, Pa.—By Delaware County Commissioners contract for paving of walks around court house to Frank Belmont, of Marcus Hook and Philadelphia, his bid being \$7,500. The bid was \$240 lower than that of James Kelly, of Sharon Hill, next lowest bidder. Other bidders were: Palmer & Snyder, \$7,970; Dickerson Paving Co., \$7,998; J. J. & A. L. Pennock, \$8,047; Platt & Co., \$8,858.

Plains, Pa.—To Harrison & Butts for road work at \$3,500.

Wilkes-Barre, Pa.—Resolution has been adopted awarding contract for paving South Washington St. to J. D. Williams.

Pawtucket, R. I.—For constructing hydraulic cement concrete sidewalks by commissioner of public works, to H. F. Lull Estate, at \$1.65 per sq. yd.

North Yakima, Wash.—N. McKivor at \$10,187 was low bidder for construction of highway into Moxee. Bids were as follows: N. McKivor, \$10,187; Hans Ped-

erson Const. Co., \$11,500; Atlas Const. Co., \$11,460; Thos. Dingle, \$12,916.60; Wm. Lemay, \$13,200; W. W. Pettijohn, \$12,260.77.

Port Angeles, Wash.—For construction of portion of the road between Morse and Sieberts Creek by County Commissioners to Sloane Bros., P. O. Box 348, Seattle, at \$20,396.

Victoria, B. C.—For paving George road by city council to Canadian Mineral Rubber Co. at about \$30,000.

SEWERAGE

Clanton, Ala.—City will shortly vote on \$40,000 bonds for sewer and water works construction.

Oakland, Cal.—City council has directed city engineer to prepare proceedings for sewerage 64th avenue from East 14th street southerly.

Middletown, Conn.—Resolution has been approved to appropriate \$62,000 for construction of sewers for west side, according to plans prepared by Alex. Potter, of New York, N. Y.

Cartersville, Ga.—City has voted \$75,000 bonds for construction of sewer and drainage system. G. W. Young is Mayor.

Decatur, Ill.—Installation of Sanitary sewage disposal plant is being considered. Warren F. Hardy is secretary of Citizens Committee on Sewage Disposal.

St. Anne, Ill.—Plans are being prepared by R. D. Gregg, of Kankakee for sewer system. It will be 4 miles in length, of 24 to 10-in. pipe, average cut 6 ft.; total cost, \$22,380. W. A. Guertin is Clerk Board Local Improvement.

Mason City, Ia.—City Engineer will prepare plans and specifications for intercepting sewer and sewage disposal plant to cost \$75,000.

Manchester, Mass.—Citizens have voted \$225,000 bond issue for construction of sewer system. Selectmen have been authorized to issue \$225,000 bonds for same.

Virginia, Minn.—City Engineer has submitted plans for the widening of outlet sewer system to cost \$10,900.

Bridgeton, N. J.—Ordinance has been passed authorizing \$15,000 loan for purpose of defraying cost of construction of part of sanitary sewer system. J. B. Jones is city clerk.

Kearny, N. J.—To deepen Frank Creek which crosses Kearny meadows to Passaic River and provides natural sewage outlet for eastern section of that town, Kearny Town Council has decided to contribute one-third of cost, or about \$1,200.

Perth Amboy, N. J.—Construction of 10-in. pipe sewer in Carson avenue has been authorized.

Binghamton, N. Y.—Ordinance has been introduced to borrow \$5,000 on city notes for construction of sewers.

Yonkers, N. Y.—Ordinance has been approved authorizing construction of sewer in Nepperhan Ave., between Yonkers Ave. and Elm St.

Elkin, N. C.—City has voted \$30,000 in bonds for construction of sewer system and water works. C. G. Armfield is Mayor.

Saluda, N. C.—Bond issue of \$6,000 will be spent in extending sewer and water lines.

Bexley, O.—Bids will be received at office of clerk of Village until 12 noon, Sept. 16, for purchase of bonds in aggregate sum of \$17,000 for completing construction of sewage disposal system and water supply. G. E. Fry is Clerk.

Cincinnati, O.—Bids will be asked early in September for construction of about 4,000 ft. of Mill Creek intercepting sewer. Also bids on first contract for system of combined sewers for suburb of Madisonville will be asked. Entire system will include over 20 miles of combined sewers. This work will be done as a part of work outlined under \$3,000,000 bond issue voted for sewer construction. H. M. Waite is Ch. Engr. City Engineering Dept.; H. S. Morse is Engr. in Charge, Division of Sewerage.

Dayton, O.—Resolution has been adopted, to be presented by Councilman Long and the members of sanitary committee to council, asking for extension of sewerage system in Arlington.

Girard, O.—Bids for constructing storm sewers on Kline and Smithsonian streets have been received, and it is said that Contractor McGlashen is low bidder.

Coalgate, Okla.—City will construct sanitary sewer, length 9,105 lin. ft.; straight 8-in. and 16-in. pipe; 5,958 cu. yds. earth excavation; 19 manholes; 2 lampholes; number of yds., 146.

Beaver Falls, Pa.—At meeting of Beaver Falls Council Engineer Hudson will make report on alternate plans for disposal plant at foot of First St. in that town.

Chester, Pa.—Plans for construction of trunk sewers and sewage disposal plan for Lansdale have been approved by State Commissioner of Health Dixon, after months of carefully study, and it is expected that work will be started before very long.

Wyoming, Pa.—Ordinance has passed Town Council providing for construction of terminal or outlet sewer from Susquehanna River over private lands; also for construction of lateral or street sewers, necessary manholes, lamp holes, and house connections along and through Sixth, Seventh and Eighth Sts. and Susquehanna Ave. in the First Sewer Dist. of Wyoming. Vint. L. Breese is Boro. Secy.

Winnsboro, S. C.—Election will probably be held for voting on question of installing sewerage and waterworks, to cost about \$65,000.

Prince Rupert, B. C.—Construction of sewer system of concrete, 18-in., 24-in., 30-in. and up to 66-in., to cost in all about \$371,000, is being considered. D. McG. Mason is City Engr.

CONTRACTS AWARDED.

Clovis, Cal.—By city, contract for installation of new sewer system, to Redman & Bier of Fresno, Cal., at a bid of \$49,000.

Kellogg, Idaho.—For construction of sanitary sewer by city council, to Parrot Bros., Baker City, Ore., at \$20,400. W. T. Simons is city clerk.

Louisville, Ky.—By board of public works, contract for construction of sewer in Schwartz avenue, to J. H. Cahill at his bid of \$21,536.

New Orleans, La.—By City to Hampton Reynolds at \$86,400 to extend drainage pumping station No. 1.

Sedalia, Mo.—For furnishing labor and material for construction of sewers in Sewer District No. 25, to G. T. Menefee & Son, Sedalia, Mo., at \$13,776. W. E. Gold is City Clerk.

Bridgeton, N. J.—To Sun Dredging Co., Bridgeton, N. J., contract for furnishing and laying 6,000 ft. of 8-in. to 15-in. pipe sewers. Contract price was \$11,895.

Passaic, N. J.—Following are bids received for construction of sanitary sewers: (a) Union Bldg. & Construction Co.; (b) Jas. Maybury & Sons; (c) Sanitary Construction Co.; Albion St., 8-in. sewer, (a) 24 cts., (b) 32 cts., (c) 25 cts.; 6-in. house connections, (a) 18 cts., (b) 25 cts., (c) 20 cts.; flush tank, (a) \$95, (b) \$95, (c) \$90; manholes, (a) \$45, (b) \$55, (c) \$40; Trenching under 5 ft., (a) 35 cts., (b) 30 cts., (c) 50 cts.; Trench under 8 ft., (a) 40 cts., (b) 45 cts., (c) 55 cts.; trenching under 8 ft. 6 ins., (a) 50 cts., (b) 40 cts., (c) 55 cts.; rock trench, etc., (a) 25 cts., (b) 40 cts., (c) 25 cts.; lead pipe, extra (a) 70 cts.; total, (a) \$537.60, (b) \$645.70, (c) \$603. Harrison St.: 8-in. pipe sewer (a) 25 cts., (b) 32 cts., (c) 25 cts.; flush tank, (a) \$95, (b) \$98, (c) \$90; trench under 6 ft., (a) 30 cts., (b) 28 cts., (c) 50 cts.; trench under 8 ft., (a) 40 cts., (b) 48 cts., (c) 50 cts.; trench under 10 ft., (a) 60 cts., (b) 70 cts., (c) 70 cts.; rock trench, etc., (a) 25 cts., (b) 40 cts., (c) 25 cts.; lead pipe, extra, (a) 70 cts.; total, (a) \$377, (b) \$481.20, (c) \$459.75. Randolph St.: 8-in. sewer pipe, (a) 24 cts., (b) 38 cts., (c) 25 cts.; 6-in. house connections, (a) 18 cts., (b) 25 cts., (c) 20 cts.; flush tank, (a) \$95, (b) \$98, (c) \$90; Manholes, (a) \$45, (b) \$55, (c) \$40; trench under 6 ft., (a) 30 cts., (b) 35 cts., (c) 40 cts.; trench under 8 ft., (a) 40 cts., (b) 45 cts., (c) 50 cts.; trench under 10 ft., (a) 60 cts., (b) 65 cts., (c) 50 cts.; rock trench, etc., (a) 25 cts., (b) 40 cts., (c) 70 cts.; lead pipe, extra, (a) 70 cts.; total, (a) \$1,510.20, (b) \$2,015.20 (c) \$1,622.90. Contracts awarded to Union Bldg. & Constn. Co. Colin R. Wise, City Engr.

Long Island City, L. I., N. Y.—Bids for building Corona sewer which is designed to drain miles of Queens territory, have been opened in Borough Hall in Long Island City. Contract was awarded to Luke A. Burke & Sons of 25 West 41st st., Manhattan. Their bid of \$1,167,852.30, was the lowest received. Nine firms entered the competition. The highest bid received was \$1,806,845.10. Successful bidder will be required to furnish a bond of \$300,000. Contract is for construction of twin tubes, one to be used for storm water. At outlet at Flushing Bay, each of tubes will be 13 ft. 9 in. in diameter. Tubes of Pennsylvania Railroad under East River,

through which trains of the Long Island Railroad run, are 20 ft. in diameter. This diameter of tubes decreases gradually to 9 ft. The sewer will run through East Elmhurst, Corona, Corona Heights, Elmhurst, Maspeth, Middle Village, Forest Hills and Kew Gardens. At certain points sewer will be 90 ft. below surface. Shafts were driven at various points along route of sewer in order that contractors might learn character of soil. Quicksand, it is said, was found in some places.

Mt. Kisco, N. Y.—By Board Village Trustees for relaying and repairing outfall sewers to F. G. Fowler Co., of Mt. Kisco, at \$9,239.

Waterloo, N. Y.—For construction of sewers, lowest bid was that of Martin & Miller, Seneca Falls, N. Y., at total bid of \$77,572.90. Morrison & Farrington, Inc., and Chas. A. Bowman, Engrs., Syracuse, N. Y.

Waterloo, N. Y.—Lowest bid received for construction of sewage disposal plant was that of Bruno Pizzimenti, of Seneca Falls, at following bid: 300 cu. yds. 1:3:6 concrete, \$8, \$3,040; 190 cu. yds. 1:2:4 concrete, \$12, \$2,280; 2,000 cu. yds. earth excavation, \$2, \$4,000; 10,000 lbs. steel rods, 4½ cts., \$450; 2,200 lbs. steel fabric, 5½ cts., \$121; 310 ft. 6 to 15-in. vitrified pipe, \$2, \$420; 50 ft. 20-in. vitrified pipe, \$3.25, \$162.50; 170 ft. 24-in. vitrified pipe, \$3.60, \$612; 80 ft. c.-i. force main, \$4, \$320; 400 ft. double c.-i. siphon, \$15.20, \$6,080; 3 wells, \$90, \$270; 3 manholes, \$75, \$225; 70 cu. yds. broken stone, \$2.25, \$157.50; 1 pump house, \$782.90; grand total, \$18,920.90. Other bidders were: Thos. R. Crane, Schenectady, at \$19,620, and Martin & Miller, Seneca Falls, at \$19,060. Morrison & Farrington, Inc., and Chas. A. Bowman, Syracuse, N. Y., Engrs.

Hamlet, N. C.—By City Council to L. T. Duke, of Johnson City, Tenn., for constructing sanitary sewer system approximately 6 miles of 8 to 15-in. pipe, manholes, flush tanks, etc., from plans of L. Lipscomb, of Gaffney, S. C., cost about \$7,000.

Liberty Center, O.—For constructing sewers to L. W. Flack, of Toledo, O., at \$6,805. Rigal & Sharpe, of Liberty Center, bid \$7,038. R. A. Beilharz is Clerk.

Meadowbrook, Pa.—To Suburban Construction Co., Philadelphia, Pa., contract for erection of sewage disposal plant. Cost is estimated at about \$5,000. Franklin & Co. are Consulting Engineers.

Newcastle, Pa.—For construction of sanitary sewer in Wilson Ave. by City Council of Newcastle, Pa., to Kimbrough & Elder, at their bid of \$4,275.

Waynesboro, Pa.—For construction of concrete sewer across Public Square to connect with Besore sewer on South Church St., by City Council of Waynesboro, Pa., to Hydraulic Stone Co. The bid was \$7.40 per lin. ft. for flat top sewer and \$7.65 per lin. ft. for an arch top sewer.

Lake Geneva, Wis.—For construction of about 3 miles of sewers to John Brogan, Green Bay, Wis., at \$10,462. W. G. Kirchoffer, Madison, Wis., is engineer.

WATER SUPPLY

Clanton, Ala.—City will shortly vote on \$40,000 bonds for waterworks and sewer construction. A. E. Matthews is Mayor.

Los Angeles, Cal.—Resolution probably will be presented to City Council by Martin Betkouski calling for bond election Oct. 15, to submit to voters of Los Angeles issue of \$6,500,000 bonds for completion of aqueduct power project.

Los Angeles, Cal.—By adopting report of public service committee recommending that bond election be called at earliest possible moment to let people vote on \$6,500,000 bonds for completion of aqueduct power project and distribution of that electricity, city council has taken first step necessary to present this important project again to people.

St. Petersburg, Fla.—City will vote on Oct. 7 on \$41,000 bond issue for extension of waterworks. M. W. Spencer is City Engr.

Cordele, Ga.—Plans are being prepared by Arthur Pew, Temple Court Bldg., Atlanta, Ga., for improvements to be made to water works costing \$40,000.

Kooskia, Idaho.—Citizens have voted \$10,500 bond issue to be used for construction of water works.

Chicago, Ill.—Plans have been completed for providing 300,000 services with meters.

Pittsfield, Ill.—Installation of water works system is contemplated.

Rock Island, Ill.—Ordinance has been passed authorizing bond issue of \$17,000 for waterworks improvements.

Anita, Ia.—Citizens have voted to issue \$15,000 bonds for construction of water works.

Coon Rapids, Ia.—Bond issue will be voted on Sept. 19 for drilling of additional well and purchase of pumping machinery.

Louisville, Ky.—Residents of Anchorage have endorsed proposed \$25,000 bond issue to build waterworks plant. The town board already had authorized taking of a vote on question of bond issue at November election.

Ringgold, La.—Citizens have organized stock company for purpose of putting in waterworks and have also formulated plan for putting in electric lights.

Pittsfield, Mass.—Board of Public Works has decided to lay 1,000 ft. of water pipe on Kenilworth st.

Perry, Mich.—Bond issue of \$14,800 for construction of waterworks system will shortly be voted on.

Pontiac, Mich.—Citizens will vote on Sept. 23 on bond issue of \$25,500 for pumping machinery.

Minneapolis, Minn.—City Council has approved of laying of water mains in various streets at cost of \$17,000.

Garfield, N. J.—The \$85,000 bond issue, which people of Garfield voted in favor of for the erection of the new water plant, will be sold to J. D. Everitt & Co. of 6 Wall St., New York.

Auburn, N. Y.—Water Board has voted for installation of chlorination plant at Owasco Lake for purification of city water, to cost \$5,000.

Yonkers, N. Y.—Ordinance has been approved for extension of water works system.

Elkin, N. C.—City has voted \$30,000 in bonds for construction of waterworks and sewer system; C. G. Armfield is Mayor.

Kauleigh, N. C.—Water meters will be installed at cost of about \$10,000.

Saluda, N. C.—Saluda is preparing to spend proceeds of another bond issue of \$6,000 for purpose of extending water and sewer lines.

Bexley, O.—Bids will be received at office of Clerk of Village of Bexley, State of Ohio, until 12 o'clock noon of Sept. 16, 1913, for purchase of bonds in aggregate sum of \$17,000, issued for purpose of completing construction of water supply and sewage disposal system for the Village of Bexley. Geo. E. Fry is Clerk.

Bandon, Ore.—City Council has instructed City Engr. to prepare plans for municipal water system.

La Grande, Ore.—City will lay about 2,000 ft. of 8-inch water pipe in a short time.

Beaver, Pa.—Plans are being discussed for erection of municipal water plant.

Mount Penn, Pa.—Ordinance putting up to voters question of making loan for erection of borough water plant is being discussed.

Winnsboro, S. C.—A committee of 12 citizens, who had been requested to act in conjunction with mayor and aldermen of town has recommended that town council be authorized to proceed with circulation of petition praying for election on question of waterworks and sewerage, provided cost of same did not exceed \$65,000.

Austin, Tex.—The Attorney General's Department has approved of Dockdale water works bonds in sum of \$27,000.

Corpus Christi, Tex.—City is contemplating constructing 20-inch water main from Calallen pumping station to city, at estimated cost of \$100,000. H. A. Stevens is City Engr.

Rosenberg, Tex.—Plans will be prepared by Randall, Lovegrove & Wyman, Union National Bank Bldg., Houston, for waterworks and sewer system.

Everett, Wash.—Building of reservoir on Boulder Creek, about 2½ miles south of Hazel, is being discussed.

CONTRACTS AWARDED.

Pasadena, Cal.—For 9,000 ft. double riveted steel pipe, 14 and 16-inch, to Baker Iron Works, Los Angeles, at \$6,066, and to American Cast Iron Pipe Co., of Los Angeles, for 480 ft. cast-iron pipe, \$32.39 per ton, and 600 ft. 6-inch cast-iron fittings, \$58 per ton. Frank Walton is Deputy City Clk.

Montpelier, Idaho.—For construction of flume for headworks of water system, to Hancock Engineering Co., ofocatello, Idaho.

Waukegan, Ill.—By City Comrs., contract for 36-in. sub-intake for waterworks, to W. H. Wheeler, Beloit, Wis., at \$9,900. New intake will extend into harbor and will be used, chiefly, when main intake clogs with ice in winter.

New Orleans, La.—By City, to C. Hyland & Co., at \$4,556.70, to construct underground conduit to river.

Baltimore, Md.—Contract for erecting pumping station, head house and conduits for the municipal filtration plant has been put on the block by board of awards. The Elkans-Tufts Co. of Atlanta, Ga., is apparently lowest bidder. Other bidders were Henry Smith & Sons Co. and the Whiting-Turner Construction Co.

Marysville, Mo.—For construction of filter house, additions to boiler room and new roof for pumping station to E. Y. Davis & Son, Albany, Mo., at \$6,618.

Belleville, N. J.—For laying 12-in. water mains by Borough Council, to Partidge & Burke, Lodi, N. J.

Canajoharie, N. Y.—By Municipal Board, contract for construction of extension of waterworks system to F. W. Allen.

Marion, N. Y.—By water commissioners of Marion, contract for installation of waterworks system, to Charles L. Lewis, Iion, N. Y., at \$23,023. The work will include about 4 miles of piping, but not pump and motor.

Raleigh, N. C.—For furnishing high-duty steam pump for Raleigh Water Co., to Fred. M. Prescott Steam Co., Milwaukee, Wis., at \$11,500.

Weldon, N. C.—For construction of water system to Neely & McCullough, Rock Hill, S. C., at \$12,583.

Lima, O.—By Lima state hospital commissioners to National Concrete Fireproofing Co., Cleveland, O., contract for installing proposed soft water reservoir system, at \$20,000.

Linton, Ore.—For constructing reservoir and pumping plant for city, to James Kennedy Construction Co., Blake McFall Bldg., Portland, at \$13,673. Other bidders were Jeffrey & Bufton, Portland, \$14,960; John Keating, Portland, \$15,927. Louis C. Kelsey, Selling Bldg., Portland, is Consult. Engr.

Nysa, Ore.—For construction of water tank water tower and other work for city water system to Chicago Bridge & Iron Co., Chicago, Ill., at \$7,500.

Philadelphia, Pa.—For laying five miles of water mains in northeastern section of city, by Water Bureau, as follows: Furnishing pipe, to Standard Cast Iron Pipe & Foundry Co., Bristol, Pa., at \$17,520; laying pipe, to M. & J. B. McHugh, Arcade Bldg., Philadelphia, at \$19,656. Furnishing valves, to the Nelson Valve Co., Chestnut Hill, Philadelphia, at \$1,392.

Roscobel, Wis.—For furnishing a 300-gallon triplex power pump, to Goulds Mfg. Co., Chicago, Ill., at \$680. J. Johnson is city clerk.

Mosinee, Wis.—For construction of water tower for municipal water system to Wausau Iron Works, Wausau, Wis.

Waterford, Wis.—For extension of water system to afford service to entire village. Contract to lay the mains has been awarded to Birdsall-Griffith Construction Co., Racine, Wis. Power for pumping station will be supplied by Milwaukee Electric Ry. & Light Co.

LIGHTING AND POWER

Prairie Grove, Ark.—City is considering installing electric light and water plant at cost of \$50,000.

Pasadena, Cal.—Morne ornamental lights and conduits are proposed for Oak Knoll section, where \$220,000 job is now in progress.

San Francisco, Cal.—Chief Engr. Jerome Newman of Harbor Commission, has recommended that arrangements be made for electric wiring and lighting of piers 26, 28, 30 and 32, which are now nearing completion, and Harbor Board has approved the recommendation. These piers will be lighted with 250-watt tungsten lamps, instead of the arc lamps formerly used for lighting of piers. Installation of electric lighting system will be started at once and will cost approximately \$2,000 per pier.

Platteville, Colo.—Village is considering question of installing electric lighting system.

Lakeland, Fla.—City has decided to install larger machinery in electric light plant.

Burt, Ia.—Steps are being taken toward installation of electric light plant. Town Council has donated site for proposed plant.

Henderson, Ky.—City will shortly im-

prove electric light plant and purchase machinery; cost about \$25,000.

Jeffersonville, Ky.—Bids have been received by City Clerk Ernest W. Rauth, of Jeffersonville, for new street lighting contract, present one expiring early in December. Only two bids were submitted, one by the United Gas & Electric Co., which now has contract, and other by Owen L. Carr, of Rushville, Ind. City council will act upon recommendations of gas and light committee Sept. 1. There are 132 arc lights in service and 11½ tungsten incandescent street lights. The rates are \$60 and \$25 per annum. Bid of Carr follows: Inclosed arc light, ten years, \$59 each per annum, fifteen years, \$59; twenty years, \$58; twenty-five years, \$57. Incandescent tungsten, 50 candle power, ten, fifteen and twenty years, \$18 per annum; twenty-five years, \$16. Carr says if he is given contract he will build power house and install a lighting plant. The United Gas & Electric Co. submitted two proposals. The first is based on contract for twenty-five years for inclosed arc lights at \$75 each per annum. For 60 candle power tungstens the bid is \$30 each per annum and for 40 candle power \$25. The bid for an all-night arc lamps service is as follows: Ten years, \$60 for each lamp per year; fifteen years, \$59; twenty years, \$58; twenty-five years, \$57.

Ringgold, La.—Citizens are formulating plans for installing electric lights.

Peabody, Mass.—Plans for repairs and alterations proposed for electric light station are on file at office of Commission in Town Hall.

Reading, Mass.—Preparations are being made for Reading Municipal Electric Light Bd. for improvements to municipal electric plant, at cost of about \$25,000.

Woodlake, Minn.—Plans for electric light plant are being prepared by Earl Jackson, of St. Paul.

Russellville, Mo.—Petitions have been presented asking that election be held to submit proposition to establish municipal electric light plant.

Schenectady, N. Y.—Schenectady is to have a great luminous way. Ordinance establishing special lighting district in State street between Washington avenue and the state armory has been unanimously adopted by common council. Luminous arc lamps, mounted on ornamental iron poles, are to be erected on either side of State street, between those points.

Schenectady, N. Y.—All bids for electric wiring of three new schools have been rejected by Board of Contract and Supply, and new bids will be received. There is about \$15,000 worth of this work to be done. Finch & Hahn, of Schenectady, were lowest bidders. Other bidders were Springler Electrical Co., of Schenectady; Peter Keeler Building Co., of Albany; James F. Burns, of Schenectady, and J. E. Tripp, of Amsterdam.

Syracuse, N. Y.—The Ornamental Street Lighting Committee of Chamber of Commerce has held conference with Mayor Edward Schoenck regarding plans for establishing lighting districts. It is probable that ordinance will be offered in Common Council defining districts and one-half expense to be charged to city, other half being paid by property owners. Several streets will be added to present district, and system will be extended in present streets.

Utica, N. Y.—Installation of electric lighting plant in connection with present steam heating plant in Oneida County Court House is being considered.

Yonkers, N. Y.—Ordinance has been approved authorizing and directing erection of twelve additional ornamental standards in South Broadway, from Vark St. to junction of New Main St. and South Broadway.

Baker, Ore.—Plans prepared by Stannard & Richardson, of Portland, for municipal lighting plant have been adopted.

Philadelphia, Pa.—Business men of Germantown Ave. will shortly purchase ornamental electric light standards to add to illumination in front of their properties.

Schwenksville, Pa.—Council is considering construction of electric light plant to supply towns of Gratersford, Spring Mount and Zieglersville.

Staunton, Va.—Board of Aldermen has decided to build municipal electric light plant. Estimated cost, \$23,000.

Eau Claire, Wis.—Bids are being received by City Clerk until Sept. 2 for installing electric light plant.

Kerrisdale, B. C.—Installation of municipal lighting plant is being considered.

CONTRACTS AWARDED.

Baltimore, Md.—Bids have been opened for electrical installation and wiring for St. Paul and Calvert street bridges. The Kingsbury-Samuels Co. is apparently lowest bidder for both contracts.

Holyoke, Mass.—Bids for new luminous arc standards or poles which will be used for street lighting on High, Dwight, Cabot and the other streets where the underground wiring has been put in, have been opened by Supt. John J. Kirkpatrick of Gas and Electric Department. Only two bids were received, contract being awarded to N. M. Sheehan & Co. of New York City, with bid of \$56 a pole. Other bid was from Lundin Electric & Machine Co. of Boston and was for \$71 a pole.

Jefferson City, Mo.—Following bids have been received by State Capitol Comm. Bd., Jefferson City, for construction of power house and tunnel of Missouri State Capitol at Jefferson City: A. Anderson & Co., St. Louis, \$42,495; Chas. C. A. Brunk, St. Louis, \$72,100; Merrill Constr. Co., St. Louis, \$72,660; Gillick Bros., St. Louis, \$69,450; Jos. Pope, Jefferson City, \$57,275; Missouri Constr. & Ballast Co., Eldon, \$85,382. Contract has been awarded to A. Anderson & Co., at \$42,495.

FIRE EQUIPMENT

Santa Ana, Cal.—Bond issue of \$12,000 will be voted on Sept. 12 for purchase of fire apparatus. W. C. Young is Chief.

Wilmington, Del.—The Liberty Fire company, Wilmington, is preparing to spend \$10,000 for motor tractor for their fire engine and combination automobile chemical engine and hose wagon.

Pinellas Park, Fla.—Purchase of two hand-drawn chemical and hose carts is being considered.

Dunlap, Ill.—Purchase of additional hose is being considered.

Bangor, Me.—About 1,000 ft. of fire hose will shortly be purchased.

Jackson, Miss.—Bids will shortly be advertised by State Board of Prison Trustees for about 75 chemical engines.

Manchester, N. H.—All bids received for erection of new engine house on McDuffie street in West Manchester are above appropriation granted for that purpose.

Gloucester, N. J.—Bids will shortly be asked for a motor triple-combination wagon. Patrick Mealey is Chief.

Paterson, N. J.—Four new motor cycles have been ordered for police department.

Rockaway, N. J.—Proposition to install alarm system will be voted on.

Falconer, N. Y.—Purchase of motor apparatus is being considered by Village Board.

Medina, N. Y.—Purchase of new and modern fire truck is being considered.

Findlay, O.—Bids will shortly be advertised for motor chassis and chemical wagon.

Toledo, O.—City Council has passed ordinance reissuing \$200,000 worth of fire department bonds. Proceeds will be used to motorize the apparatus.

Brigham City, Utah.—Purchase of motor apparatus is contemplated in near future.

Provo Utah.—Provo city commissioners and governor of Utah are discussing plan for purchasing a \$9,000 combination fire engine for Provo, to be used to protect the state mental hospital and county buildings as well as city. The plan is for city, county and state to give \$3,000 each toward purchase, and it is believed it will be adopted.

Edgewood, W. Va.—Purchase of motor apparatus is being discussed.

Juneau, Wis.—Purchase of 700 ft. of hose has been authorized.

Merrill, Wis.—Purchase of one piece of motor apparatus has been decided on.

CONTRACTS AWARDED.

Concord, N. H.—Fire department committee of Board of Aldermen has agreed on purchase of combination chemical and hose wagon from Robinson Fire Apparatus Manufacturing Co. of St. Louis through its representative, M. F. Collins. Price of apparatus complete will be \$6,000 and it is said to be delivered within 70 days. It will be equipped with two 35-gallon tanks with 300 ft. of chemical hose and will carry 1,200 feet of 2 1-2 inch hose and will be equipped with a self starter, bumper and hydrant throwing device.

Roselle, N. J.—To Robinson Fire Apparatus Mfg. Co., through C. J. Cross, of New York City, eastern sales manager for piston-pump motor engine, at \$9,000.

New York, N. Y.—Following contracts have been awarded for fire hose: Goodrich Co., 7,250 ft. of 2½-in. cotton rubber-lined, and to Empire Tire & Rubber Co., 2,500 ft. of 2½-in. and 1,000 ft. of 1½-in. rubber hose.

Beaver, Pa.—Resolution has been read whereby borough has entered into contract with Standard Garage Co. of Beaver Falls, to purchase a \$3,600 Nyberg Autic Chemical fire truck.

Harrisburg, Pa.—Contract for purchase of 3,000 ft. of fire hose has been approved by council. Fire Chief Kindler suggested that half contract be awarded to Gilbert and Son for bilateral hose and that other 1,500 ft. be paragon hose.

Harrisburg, Pa.—The new combination chemical and hose wagon for Shamrock Hose Co. has been purchased from Combination Ladder Co., of Providence, R. I., for \$1,492.

Chippewa Falls, Wis.—To New Jersey Car Spring & Rubber Co., for 500 ft. of hose, at 71 cts. per foot.

BRIDGES

Marysville, Cal.—As result of inspection of Feather River bridge approach, City Council has declared the 600-ft. trestle unsafe for heavy traffic. City Engineer Meek has plans for concrete structure which can be built at expenditure of \$20,000 and Council will probably adopt them and have construction started immediately.

Santa Barbara, Cal.—Plans are being drawn by County Surveyor for reinforced concrete arch bridge to cross Rincon Creek on state highway. It will have 85-ft. span and cost \$10,000.

Denver, Colo.—City Council has passed bill providing for issuing of \$260,000 Colfax Larimer viaduct bonds.

Washington, D. C.—District Commissioners are having new plans prepared for reinforced concrete bridge over Rock Creek at Q St.; invite new bids early in September. Bridge will have total length of 261 ft. and will cost \$275,000. Plans are also being prepared for Pennsylvania Ave. bridges to cost \$160,000.

Moultrie, Ga.—Colquitt County will shortly vote on \$400,000 bonds to build steel bridges and culverts.

Pittsfield, Mass.—Board of Public Works has voted to ask City Council for order for \$4,000 for the Lyman St. bridge.

Paterson, N. J.—Bridge bonds in sum of \$26,000 will be sold at 2 p. m., Sept.

10, by finance committee of board of chosen freeholders of Passaic County.

Marletta, O.—Bids will be received by Hammond Burton, City Auditor, for purchase of bonds in sum of \$80,000 for repairing, constructing and rebuilding various bridges.

Franklin, Pa.—At meeting of select council it was decided to urge upon county commissioners necessity of constructing temporary bridge over French creek.

Angleton, Tex.—Brazoria County will vote Sept. 23 on \$60,000 bonds to build bridge across Brazos River.

Sherman, Tex.—About \$35,000 bridge bonds have been sold by County Comrs.

Waco, Tex.—Plans are being prepared by R. J. Windrow, Rd. Supt., for rehabilitating suspension bridge across Brazos River. He will submit plans to County Commissioners for 3-span steel bridge to cost about \$40,000.

Columbia, Va.—Construction of bridge across James river, connecting Cumberland with Fluvanna, at Columbia, is being discussed.

CONTRACTS AWARDED.

Birmingham, Ala.—By city, to Central Contracting Co., Birmingham, to erect two bridges over Village Creek at Ave. F. and at 25th St., to cost \$7,700; Walter G. Kirkpatrick is City Engr.

Macon, Ga.—Bibb County Commissioners to C. W. Requarth Co., Charlotte, N. C., at \$14,485, to build 4 reinforced concrete bridges, each 100 ft. long and 24 ft. wide, across Rocky and Tabesofkee Creeks.

Larned, Kan.—By Commissioners of Pawnee County contract for construction of three bridges across Pawnee River to Topeka Bridge & Iron Co. W. C. Yare is County Clk.

Topeka, Kan.—By Pawnee County Commissioners to Topeka Bridge & Iron Co. contracts for three reinforced concrete bridges across Pawnee at aggregate cost of \$15,400. One bridge will be at Burdette, one just east of Rosel and third just west of Larned.

Boston, Mass.—By Department of Public Works, contracts for planking and paving Brooklin St. bridge, to James Doherty, at \$13,949. Other bids were: Lawlor Bros., \$14,831; W. H. Ellis, \$15,523.

Cincinnati, O.—By Commissioners of Hamilton County, Ohio, and of Dearborn County, Ind., contract for construction of superstructure of bridge over White-water River at Harrison, Ohio, to Oregon Bridge Co., at \$29,000 and con-

tract for substructure to the C. H. Glan-drif Co., at \$30,000.

Mt. Gilead, O.—By board of Morrow county commissioners, contract for construction of Hahn Mill concrete bridge, to D. H. Richardson, Iberia, O. Clifton Sipe is county auditor.

Coatesville, Pa.—To Corcoran Construction Co., West Chester, contract for construction of bridge across Brandywine creek and Main street, in Coatesville, on bid of \$18,577.

Altoona, Wis.—To Eau Claire Concrete Block & Silo Co., contract for construction of Otter Creek bridge, Altoona, Wis., at \$10,000. The work will include 700 cu. yds. of concrete.

Peterborough, Ont.—By Board of Works contract for construction of two bridges, one on Park St. and other on McDonnell St. to W. H. Lytle, Peterborough, at \$6,750. Other bidders were: Hyland Construction Co., \$8,075; J. E. Hayes, \$8,650; Clark & Monds, Ltd., \$9,355; Hickey & Carroll, \$9,575; J. J. McNab, \$11,800; Sullivan & Moran, \$12,500. R. H. Parsons is City Engr.

MISCELLANEOUS

Long Beach, Cal.—Citizens have voted \$35,000 bond issue for construction of garbage incinerator.

San Diego, Cal.—Wheeler & Haley have prepared plans for county detention home to be erected by Bd. of Superv. at a cost of \$30,000.

San Rafael, Cal.—Bonds in sum of \$25,000 have been voted for construction of municipal incinerator. Plans will be prepared shortly.

Santa Monica, Cal.—City is considering expenditure of \$35,000 for construction of garbage incinerator.

Willimantic, Conn.—City of Willimantic has voted appropriation of \$8,000 for municipal ice plant.

Wilmington, Del.—The Security Trust & Safe Deposit Co. will offer for sale over its counter \$200,000 worth of New Castle county bonds. Money will be used for new bridge work, new road work and to pay part of county's share of the \$1,500,000 combined city hall and county court house.

Pensacola, Fla.—Disposal of garbage is being discussed. Purchase of 760 acres of land for garbage dump is favored.

South Bend, Ind.—County Commissioners are considering erection of county tuberculosis hospital in South Bend, to cost about \$50,000.

TOO LATE FOR CLASSIFICATION

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
STREETS AND ROADS				
Wash., Everett	.....2 p.m., Sept.	8.. Constrn. highway	.....	Co. Engr.
N. J., Elizabeth	.....3 p.m., Sept.	9.. Constrn. culverts	.....	J. L. Bower, Co. Engr.
O., Cincinnati	.....noon, Sept.	12.. Repairs	.....	A. Reinhardt, Clk. Co. Comrs.
N. Y., Brooklyn	.....11 a.m., Sept.	12.. Asphalt paving	.....	L. H. Pounds, Boro. Pres.
O., Salem	.....noon, Sept.	12.. Sanitary sewer	.....	D. H. Rummel, Dir. Pub. Serv.
N. J., Rahway	.....8 p.m., Sept.	16.. Sanitary sewers	.....	R. Marsh, City Engr.
Ill., Springfield	.....10 a.m., Sept.	18.. Eighteen inch crock pipe sewer	.....	R. H. Hamilton, Pres. B. L. I.
Ind., Lockport	.....2 p.m., Sept.	19.. Joint storm and sanitary sewer system	.....	C. H. Darneal, City Clk.
O., Fostoria	.....noon, Sept.	22.. Sewage disposal plant	.....	R. J. Barrett, Clk.
WATER SUPPLY				
N. Y., Brooklyn	.....2 p.m., Sept.	11.. Feed water heaters in pumping station	.....	H. Thompson, Comr.
LIGHTING AND POWER				
Ind., Hammond	.....10 a.m., Sept.	8.. Electric light lamp posts	.....	O. H. Doelke, Clk.
BRIDGES				
Kan., Hutchinson	.....3 p.m., Sept.	9.. Reinforced concrete bridge	.....	E. Metz, City Clk.
Md., Baltimore	.....noon, Sept.	10.. Reinforced concrete bridge	.....	W. L. Marcy, Sec. St. Rd. Comn
Kan., Olathe	.....noon, Sept.	10.. Concrete bridges	.....	W. J. Moore, Clk.
O., Lima	.....Sept.	13.. Approaches for bridge	.....	Bd. Co. Comrs.
Kan., Lawrence	.....noon, Sept.	13.. Reinforced concrete arch culvert	.....	H. Broeker, Clk.
O., Portsmouth	.....Sept.	15.. Reinforced concrete piling substructure	.....	T. C. Patterson, Co. Aud.
Pa., Carlisle	.....11 a.m., Sept.	18.. Reinforced concrete girder bridge	.....	Bd. Co. Comrs.
MISCELLANEOUS				
O., Defiance	.....2 p.m., Sept.	8.. Building for county children's home	.....	S. I. Gruner, Co. Aud.
N. J., Atlantic City	.....11.30 a.m., Sept.	10.. Additions to Atlantic County Asylum	.....	A. B. Smith, Ch. Com.
N. Y., Brooklyn	.....3 p.m., Sept.	11.. Playground apparatus	.....	C. B. Stover, Boro. Pres.
N. Y., Brooklyn	.....10.30 a.m., Sept.	12.. Central office for fire bureau, plumbing, gas fitting and steam heating	.....	J. Johnson, Fire Comr.
O., Dayton	.....Sept.	12.. Garbage collection	.....	P. Sebold, Dir.